

A NORMATIVE FRAMEWORK FOR ANALYZING HUMAN ENHANCEMENT
TECHNOLOGIES

by
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Abstract of the Dissertation

Due to the explosion of biotechnological advancements, there is a growing body of literature in philosophy concerning the moral and social issues surrounding biotechnical means of enhancing human capacities. A common trend has been to view enhancement as a homogenous category, and to either advocate for it or demonize it. This dissertation advances a moderate view, which suggests that human enhancement should not be normatively analyzed as a single and unified topic; rather, particular categories of enhancement ought to be normatively evaluated based on their own merits and demerits. In doing this, I suggest that concerns about harm *to others* have not received adequate attention. Addressing the diversity of human enhancements and their potential to create harm to others should play a more prominent role in evaluating specific forms of biotechnology used for human enhancement.

This dissertation has two main divisions: a theoretical section and an applied section. In the first section, I develop an interpretation of Joel Feinberg's conception of harm along with his version of the harm principle. According to this model of harm, A harms B when A unjustly damages B's interests. The harm principle holds that the prevention of harm to others or the risk of harm to others is always reason in favor of legislation that limits individual liberty. In the second section (Chapters Four, Five and Six), I apply this harm principle and conception of harm to three categories of enhancement. Chapter Four deals with muscle enhancement technology; Chapter Five deals with cognitive enhancement technology; and Chapter Six deals with the

genetic engineering of children. In each of these chapters, I consider several ways each category of enhancement could raise concerns about harm to others. I then critically analyze these concerns and propose tentative social policy recommendations based on my analysis of each category of enhancement using the harm principle.

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--‘*Primum non nocere*’ (First, do no harm).¹--

Part I: Methodology and Theoretical Foundations

Chapter 1

Human Enhancement: A Question of Morality and of Policy

Introduction

The Problem of enhancement

The purpose of this work is to suggest a practically applicable and plausible theoretical framework of moral/ political philosophy that will provide preliminary moral and social policy solutions to the questions surrounding biomedically engineered human enhancement. During the past several years, the field of applied ethics has seen a proliferation of work concerning the moral use of biotechnology. Biomedical technology aimed at human enhancement has received a significant amount of attention, and not without good reason. Increasingly, science has allowed us to manipulate our own biology not only to cure and reverse disease, but also to improve the biological make-up of otherwise healthy individuals. Muscles can be made stronger and concentration can be improved by pharmaceutical and genetic alterations to the human body.² In the near future, the lengths to which these types of enhancements can be carried by medical intervention will advance greatly, and what was previously considered science fiction is now being considered science fact.

¹ This phrase is commonly thought to have derived its spirit from the Hippocratic Oath, which has been historically known to have set the ancient precepts of the ethical practice of medicine since antiquity.

² Pharmaceutical and genetic means for enhancing both muscular strength and cognitive capacities are topics that I will consider in later chapters of this work. Steroid use, human growth hormone use, and gene therapy occupy the moral debate over physique enhancement. Drugs and genetic engineering techniques targeted to improve concentration, memory, and mood elicit ethical concern and political anxiety. Some of these means of enhancement are not yet possible (for instance, gene therapy treatment that will improve one’s intellect), but many are already currently available (consumption of the drug modafinil for improved concentration and IGF-I injected intramuscularly as a virus for muscular hypertrophy).

With these novel scientific abilities comes emerging moral concern. Michael Sandel has described this topic as inducing a sort of ‘moral vertigo’, for ‘...When science moves faster than moral understanding, as it does today, men and women struggle to articulate their unease.’ (Sandel 2004). It is clear that as bioengineering opens new doors and broadens horizons, serious moral questions arise that cannot be ignored. Is it morally permissible to make use of our knowledge and research in genetics and pharmaceuticals to enhance humans by altering human biology? What social and political considerations should we focus on to properly shape and prepare society for these potentially drastic changes in human functioning? If human enhancement is morally permissible, how should we regulate its use in society?

These general questions give rise to more specific normative questions of philosophy and politics. Is it morally wrong for a set of parents to genetically modify their child to express certain characteristics, such as athletic prowess or musical talent? What sort of regulations and policies should govern the use of pharmaceutical and genetic enhancements aimed at achieving the ‘perfect physique’? These are just a couple of the many topic-specific questions that arise within the debate of human enhancement which have no easy answers. The focus of this work will be to shape a systematic way of handling these types of pressing questions.

What is human enhancement?

For the purposes of this work, we can define human enhancement as follows: Human enhancement is the non-therapeutic use of biomedical technology to improve biological functioning.

We should note that this definition stipulates several characteristics of human enhancement. Human enhancement refers to some intervention in the biological functioning of a person. Further, this intervention uses some form of biomedical technology.

Accordingly, we would not consider special talents or capacities that have been inherited by the genes of the mother and father as human enhancement. Genetic inheritance is not intervention nor does it involve biomedical technology. Improving human capacity through mastering mindfulness meditation would be a form of intervention, but would not be accomplished by biotechnology. Since these ways of improving our capacities are not the result of biomedical technology, they are beyond the immediate scope of this work.

Furthermore, human enhancement must consist of an intervention that actually improves a human capacity. Any intervention that fails to improve any capacity and also fails to impair any capacity cannot be said to enhance. An intervention that has no apparent effect on biological functioning at all (if there is such a thing) neither enhances nor impairs.

This definition also requires that for some biomedical intervention to count as an enhancement it must be used with the intention of enhancing some specified set of capacities. Consider the following case: A suicidal scientist injects himself with a mislabeled liquid that he thinks is poison, but it turns out to be a serum that enhances the capacity to see in low-light conditions. He accidentally enhances his visual acuity. This would be a case of accidental (or unintentional) enhancement. Cases of accidental enhancement are not the proper subject of moral debate and legislative concern in the same way that cases of intentional enhancement are the proper subject of normative concern. Legislation against accidents encompasses a separate set of concerns that are especially germane to accidents

and negligence per se. Moral culpability in cases of true accidents likewise brings up theoretical problems that are germane to dealing with accidents in general.

The therapy / enhancement distinction is perhaps one of the most important considerations to address in an inquiry on human enhancement. One approach for separating enhancement from therapy is to take the attitude of ‘I know it when I see it’. According to this view, we would admit that there are clear and obvious cases whereby a particular type of biological alteration of human functioning would be considered to be ‘enhancement’ while also conceding that there will be tough cases where the enhancement / therapy distinction becomes blurry. Call this the Intuitive View. Under the Intuitive View, obvious examples of bioenhancement, such as the consumption of a pill that would triple a person’s capacity for short-term memory would count as being bioenhancement. Other cases, such as consuming coffee or tea before taking the college entrance examinations in the hopes that doing so will improve concentration and memory, will be harder to evaluate. Since developing a complete theory that can distinguish therapy from enhancement is beyond the scope of my project, I will accept this view as a necessary but not sufficient element of a more complete analysis of the problem.

The subscriber to the Intuitive View on enhancement might suspend judgment on the more difficult cases while still pointing out that such a view readily meshes with widespread notions of what counts as bioenhancement. Similarly, we might take an Intuitive view on what the conditions are for someone to be considered bald. There are obvious instances in which someone is rightly categorized as being bald (persons with zero hairs on their heads), and obvious cases in which someone is not bald (having a full head of thick, wavy hair). We can discuss baldness by adopting the Intuitive View on baldness while also accepting the fact

that there are additional examples of vagueness in which achieving neat categorization into bald or not-bald will be difficult due to disagreement.

The Intuitive View can allow for ways of narrowing down more closely several aspects of enhancement. For example, the Intuitive View can allow for definite distinctions between treatment for serious illness and treatment for improving a healthy person.

Radiation and chemo-therapy prescribed to a patient with a brain tumor would fall into the category of treatment of disease, whereas a plastic surgery procedure for re-shaping a person's nose for a career in runway modeling would fall into the category of enhancement.

In that spirit, philosophers have typically distinguished between medical interventions that are therapeutic and medical interventions that are enhancement. To cite just one example, Torbjorn Tannsjo has referred to therapeutic interventions as 'negative interventions', where they are 'performed with the aim of curing a disease or eliminating a handicap or disability' (Tannsjo 2009). Examples of therapeutic or negative interventions would include diabetic insulin injections, radiation and chemo-therapy for cancer treatment, Modafinil prescriptions for treating narcolepsy, and testosterone administration for patients with low testosterone levels in the blood.³ Assuming that we can establish a satisfactory way of distinguishing between variation caused by disease and variation caused by non-pathological anomaly, our therapy/enhancement distinction can become all the more concrete. To be sure, an analogous Intuitive View on disease can be adopted to help deal with this question. This would also allow for making finer distinctions in regards to disease

³ This is not to say that those medical interventions that are categorized as negative or therapeutic cannot be also used in a manner that is consistent with being considered as enhancement. To be sure, non-diabetic bodybuilders have used insulin injections for increased muscle mass; students, soldiers, and professionals have consumed modafinil so as to improve concentration over prolonged periods; testosterone has been used by otherwise healthy athletes in various sports for enhanced muscular strength and endurance. Even so, the therapy /enhancement distinction can still be made and its theoretical and practical utility still recognized.

and non-pathological variations. We might want to separate disease and non-pathological variations with respect to each variation's impact on a person's ability to obtain a normal opportunity range.⁴

Similarly, the Intuitive View would certainly make room for analysis of the concept of disease, which would help to highlight the distinction between therapy and enhancement. One could argue that disease consists of an adverse deviation from normal functioning. This would account for cancer, diabetes, and similar well-accepted diseases. But this account could run into problems. For instance, we might wonder if dental cavities constitute a true disease since much of the world's population throughout human history has had to deal with tooth decay. If most of the world's population had struggled with tooth decay as a statistical norm, then one might argue that some notion of normal functioning would include in it some degree of tooth decay. A legitimate question would be to ask if a treatment for preventing dental cavities would qualify as an enhancement or a therapy. On the one hand, cavities are characterized by pathological decay of teeth caused by bacteria. On this reading, tooth decay might count as a disease and any subsequent treatment would be a form of therapy. On the other hand, since most everyone has been affected by tooth decay, it might be argued that cavities do not reach the threshold of qualifying as a statistically significant deviation from what counts as typical functioning of human beings. If I undergo a treatment that prevents cavities, I might be considered to have enhanced myself over the rest of the dental cavity suffering population. To reiterate my earlier point, my goal here is not to develop detailed accounts of disease and enhancement. My aim is to enumerate and discuss important issues that any account of enhancement will need to address.

⁴ See Norman Daniels, *Ibid.*

Indeed, Michael Sandel has posed the question of how we ought to think about the following case⁵, which exposes the difficulty of distinguishing between disease and non-pathological variation: The parents of child A are told by a physician that A has a hormonal deficiency such that if left untreated with growth hormone injections, A would grow to a height of 5'2". Assuming the average height to be well above 5'2", we can now compare A to another child, B, whose parents are told by a physician that he will grow to a height of 5'2" as a result of normal genetic variation, and not due to any abnormal hormonal profile. The parents of B, however, have the option of providing the same hormone injections to B, which would result in a normal mature height. In this comparison, the question of how we ought to categorize the hormone injection treatment for child A and for child B is directly related to the question of whether both children are enhanced by the hormone injection, if B is enhanced and A is not enhanced, or if enhancement occurs in neither case since the hormone that is used may be considered 'natural' because it is produced in the human body.

The Intuitive View, as I have stated it here, does not provide its own answers to questions that result from cases like the growth hormone case presented above. A key reason why an Intuitive View alone cannot address cases like these is because it does not specify a method for distinguishing instances of enhancement from instances of non-enhancement or therapy. (This is not to say that such a view cannot allow for these distinctions). In the hormone injection case, it could be argued that Child A's hormone injections ought to be considered a form of therapy rather than a form of enhancement, whereas Child B's injections might be considered an enhancement. Should one argue along these lines, it could be said that A's injections correct for a medical disorder or deficiency in A's development,

⁵Sandel mentions this type of situation in 'The Case Against Perfection', Ibid. I formulate it more succinctly here for expediency and clarity.

and should therefore be considered a therapeutic intervention that ‘cures’ some abnormality. In contrast, B’s receipt of hormone injection would be an enhancement to B’s otherwise ‘normal’ functioning, where ‘normal’ would signify that B suffered no medical deficiency in need of correction. Rather, it might be said that hormone injections for B would take B’s functioning beyond that which is considered to be his ‘normal’ growth development. An account of normal functioning may be needed in addition to an account of disease. Disease may just consist in a departure from normal functioning within a specified range, or it might appeal to pure notions of illness through pathogens and acquired injury.

Moreover, distinctions can be made among the medical interventions that are categorized as enhancement. Francis Kamm states that ‘There are at least two types of enhancement. In the first, we make it the case that more people are above the current norm in ways that many people are already quite naturally...In the second type of enhancement, we introduce improvements that no human being has yet evidenced---for example, living to be two hundred years old and healthy’ (Kamm, 2009). Both of these types of medical interventions can be considered types of enhancement. Enhancement can be achieved by raising the collective average intelligence quotient (IQ) by two standard deviations, which would be an IQ that many individuals already possess. Alternately, enhancement could occur if a few individuals were genetically altered to be able to run a mile in less than two minutes time (a feat that no human has yet accomplished). In the first case the enhancement takes more people to a more desirable range of functioning.⁶ Alternatively, in the second case, the degree of enhancement could be such that the capacities of the enhanced would be

⁶ Even if the degree of enhancement is small, it can have dramatic effects if realized across most of the population. Small increases in IQ across the global population could have resounding impacts in world economy. Indeed, the U.S. Army has stipulated that a small increase in the IQ of everyone above the age of 20 would have economic impacts, the significance of which would rival those that we observed from the introduction of the internet. (Bostrom, 2009, page 20.)

at degrees or levels for which there exist no precedent in human history. These latter types of enhancement would result in what many would consider a ‘post-human’ existence.

Further distinctions can be made when discussing bioenhancement. We should wonder if there is a relevant difference between a substance that naturally occurs in the body, one that can be derived from a ‘normal’ diet but be taken in higher concentration in the form of a pill or a powder, and a substance that is produced in a laboratory. All three types of substances that can be consumed will probably be considered forms of enhancement, but there could be differences in how people think about the moral and legal permissibility of these vectors for enhancement.⁷

Additionally, Ryuichi Ida maintains that East Asian bioethical attitudes distinguish two ways in which improvement can be achieved: extrinsic and artificial and intrinsic and non-artificial. He writes that ‘...The first is by way of scientific or technological means. This improvement is extrinsic and artificial...Another way of improvement is improvement through daily effort and training. This improvement is intrinsic...There is no intervention from the outside’ (Ida, 2004).

I do not think that Ida’s method of distinguishing between methods of improvement works. While the focus of this work is to evaluate enhancements made possible by biotechnology, I mention Ida’s distinction between extrinsic and intrinsic improvement to illustrate two points. First, I do not think it is possible to draw sharp distinctions between intrinsic and extrinsic improvements. Secondly, even if we could do this, separating

⁷ Protein powders and creatine monohydrate powders both consist of substances that naturally occur in the diets of normal people. Creatine is a combination of three amino acids (Arginine, Glycine and Methionine) and can be found in fish and meats. However, the consumption of protein powders and creatine powders may become viewed as forms of enhancement whereas the consumption of meat and fish would not be considered a form of enhancement. Is this a relevant distinction? A thorough definition of ‘enhancement’ will need to at least acknowledge these difficult cases.

improvements this way yields totally implausible results insofar as determining what types of improvements ought to be banned (according to Ida) and which ones are acceptable.

Ida's discussion asks us to distinguish between those improvements in capacities that are achieved by so called 'natural' means and those improvements in capacities that are achieved by more sophisticated intervention (i.e. science and technology). 'Natural' means for improvement would include training with barbells for increases in muscular strength, studying a textbook in order to do well on an academic exam, or practicing a golf-swing over many repetitions in the hopes of improving one's golf game. These methods of improvement, as Ida notes, consist in training and conditioning through taking part in disciplined and systematic sets of behaviors without the introduction of some external substance or agent that would affect the person's performance.⁸

Contrast these methods of improvement with those that require the introduction of some substance or the application of some procedure (surgical or otherwise) that would be the cause of enhanced performance. Gene therapy and pharmaceutical interventions would certainly fall into the so-called 'external' methods of enhancement, as would surgical procedures that alter one's physiology.

However, these distinctions come apart when we start to examine cases that might blur the line between the intrinsic and the extrinsic. Ida maintains that for an improvement to be intrinsic there must be no 'intervention from the outside'. The term 'intervention' would seem to suggest that the one being improved / enhanced is a passive receptor to some modification introduced by some external agent, most intuitively, by the action(s) of another. To intervene would mean to actively alter processes or evolution so that the end result is

⁸ Clearly Ida's distinction here is vague. Barbells and textbooks are, in some sense, 'interventions from the outside'. However, his specifications want to be able to keep ways of improvement made possible by training and conditioning, all of which would require some type of external agent (save, perhaps, the use of meditation).

different from that result which would have occurred but for the intervention. ‘Intervention from the outside’, then, would entail that improvement results from being on the receiving end of some form of intervention introduced by someone else. But according to this account of ‘intervention from the outside’, it may not count as an extrinsic form of improvement to ingest some pill or supplement or food so as to enhance some capacity. The action of consuming a substance seems to more closely resemble being the active participant in modification, which does not seem to fall neatly into the conditions for what it means to be extrinsic (i.e. any intervention from the outside).

However, these means of enhancement are usually thought to be instances of what Ida considers ‘extrinsic’ improvements that are made possible through ‘science and technology’. Significant scientific research goes into the development of pharmaceuticals and dietary supplements. Considerable understanding is required for recommending dietary adjustments aimed at improved health. Here, the intrinsic /extrinsic model begins to blur some intuitive lines. Moreover, according to this understanding of extrinsic improvement, the simple use of a microscope or a pair of spectacles might qualify as an extrinsic improvement since both utilize an intervention from an external agent and the application of scientific progress and technology is necessary for their development and use. To use Ida’s terminology, these forms of improvement are ‘artificial’. But certainly such extrinsic and artificial improvement would not be condemned by any reasonable thinker on the subject.

If one accepts these methods of distinguishing types of improvements, it will have implausible effects on our moral and legislative conclusions. For example, if we are to argue that extrinsic improvements ought to be banned because they are artificial, then we may be forced, by standards of consistency, to ban the use of microscopes and spectacles while

allowing for the use of pharmaceuticals and dietary supplements for enhancing human performance.⁹ Not all improvements that are extrinsic, by Ida's standards, can be correctly categorized as being wrong. Similarly, not all improvements that are intrinsic can be immediately thought of as praiseworthy and moral. These sorts of distinctions would lead to proscribing cases of extrinsic improvement that are uncontroversial and permitting cases of intrinsic improvement that need careful evaluation. Nevertheless, some sort of principled distinction between improvements that are 'intrinsic' and improvements that are 'extrinsic' might be salvaged, but is beyond the scope and purpose of this work. The main purpose of describing Ida's standards is to acknowledge that attempts at differentiating between methods of improving human capacities will run the risk of over- and under-proscription if we attach normatively important connotations to such distinctions. Moreover, some of the ways we might try to distinguish between 'good' types of enhancement and 'bad' types can run the risk of being arbitrary.

To summarize this section: Human enhancement with respect to this thesis must consist of non-therapeutic biomedical intervention that improves on some human capacity. Forms of biomedical intervention include, but may not be limited to, genetic engineering and pharmaceutical treatments. Any improvement, if it is to count as a case of human enhancement, must be the intended consequence of the biomedical intervention in question. Moreover, an Intuitive View that distinguishes between enhancement and therapy allows for us to notice clear cases of enhancement and clear cases of medical therapy. This view is

⁹ Now it might be argued that there are relevant differences between spectacles and microscopes. True enough, spectacles could be categorized as a treatment for a shortcoming while microscopes could be categorized as improvements. Regardless, Ida's specifications regarding the extrinsic/intrinsic criteria seem to imply that both are extrinsic interventions made possible through science and therefore warrant our moral demur. The reasoning in this footnote, then, would expose yet another flaw in this way of drawing distinctions.

consistent with recognizing that there will be difficult cases, where the enhancement / therapy distinction becomes blurry.

When confronted with difficult cases, we might need to develop a way of separating disease from normal variation. How we separate disease from normal variation can shed light on answering cases that depend on whether a particular intervention cures a disease or enhances a capacity. If tooth decay is a disease, then gene therapy that eliminates tooth decay would be considered a medical therapy. Should tooth decay fall within the normal range of biological variation and not count as a disease in need of therapy, then gene therapy that eliminates tooth decay would be considered enhancement.

Finally, we have seen that various ways of distinguishing between different ways of enhancing a person are problematic. An example would be Ida's distinction between intrinsic and extrinsic improvements, which, if adhered to, would yield unintuitive results caused by grouping controversial cases of enhancement with uncontroversial ones. I entertain these issues here not with the goal of trying to solve them (which is a task beyond the scope of this work), but instead to acknowledge that a completely thorough philosophical account of human enhancement should address these sorts of problems.

The current debate on human enhancement

In recent years, philosophers have drawn attention to a range of philosophical positions available to bioethicists in regards to how we ought to think about these forms of bioengineering. Nick Bostrom writes that 'Already, one can detect a biopolitical fault line developing between pro-enhancement and anti-enhancement groupings: Transhumanists on the one side, who believe that a wide range of enhancements should be developed and that

people should be free to use them to transform themselves in quite radical ways; and Bioconservatives on the other, who believe that we should not substantially alter human biology or the human condition' (Bostrom 2006). Elsewhere, Bostrom writes about the two extreme positions that have been advanced in the debate. On the one side is the pro-enhancement camp. He writes, 'Transhumanists promote the view that human enhancement technologies should be made widely available, and that individuals should have broad discretion over which of these technologies to apply to themselves (morphological freedom), and that parents should normally get to decide which reproductive technologies to use when having children (reproductive freedom) (Bostrom 2005). On the other side of the debate, Bostrom identifies the Bioconservatives by stating, 'In opposition to this Transhumanist view stands a Bioconservative camp that argues against the use of technology to modify human nature' (Bostrom 2005).

Other commentators have drawn similar attention to the various political positions being promoted in the debate over enhancement. Michael Hauskeller (Hauskeller 2009), James Hughes (Hughes 2010), and Rebecca Roache with Steven Clarke (Roache, Clarke 2009) have all drawn attention to the bio-political divides that have emerged within the literature on enhancement technologies.

In their recent article 'Bioconservatism, Bioliberalism, and Repugnance', Roache and Clarke state:

On one side of this debate are Bioconservatives, whom we take to subscribe to two main claims: the moral claim that human enhancement is intrinsically wrong, and the political claim that it should therefore be banned or severely restricted. Those who do not think that enhancement is intrinsically wrong, but nevertheless view the potentially undesirable consequences of particular enhancements as reason to restrict the use of those enhancements, we label Biomoderates. Biomoderates have not so far been very active participants in what has been a polarised debate. The chief opponents of Bioconservatism, those who hold that enhancement is neither

intrinsically wrong nor unusually risky, and should generally be permitted, we call Bioliberals. A frequently discussed sub-category of Bioliberalism, which we do not focus on here, is transhumanism, which involves not only the rejection of Bioconservatism, but also the substantive claim that enhancement is desirable. (Roache& Clarke, 2009).

These authors go on to argue that the Bioconservatives and Bioliberals have reached an ‘impasse’ on the enhancement debate. Roache and Clarke write that, ‘Unfortunately, current debate between Bioconservatives and Bioliberals has stalled before reaching any meaningful consensus’ (Roache et al, 2009).¹⁰ The authors argue that the reason such an impasse has occurred is due to the Bioconservative tendency to rely on intuitions and feelings of repugnance when objecting to enhancements, while Bioliberals (and Transhumanists) rely primarily on analysis and arguments. Due to these different strategies of debate, the authors assert that both sides seem to simply talk past one another.

Not all Bioliberals will agree on all matters with respect to enhancement, and Bioconservatives will vary with respect to individual stances on certain enhancements. Furthermore, some Bioconservatives will focus their general arguments toward one class of issues in enhancement, while other Bioconservatives may focus the emphasis on other issues in enhancement.

Bioconservatives, or those who promote variations of the anti-enhancement stance, would include George Annas, Michael Sandel, Francis Fukuyama, Ryuichi Ida, and Leon Kass. These authors have all expressed resistance to the idea of using some or certain methods of biomedical engineering to significantly enhance human capacities beyond the

¹⁰ Roache, Rebecca and Clarke, Steven. ‘Bioconservatism, Bioliberalism, and Repugnance’. Monash Bioethics Review. Vol. 28 No. 1 (2009).

medically healthy norm.¹¹ Transhumanists, on the other hand, maintain that we should be able to promote the proliferation of medical technologies that enhance human capabilities beyond what is possible for healthy individuals. For writers like Nick Bostrom and Julian Savulescu, the opportunity to significantly alter the limits and boundaries of human biological functioning for the better is something that should be embraced and encouraged.¹² There are also approaches to the ethics of enhancement that can be characterized as Biomoderate, in that the enhancement project is neither largely condemned nor embraced. Many bio-moderate approaches examine both the merits and concerns of enhancing humans while refraining from explicitly stating whether they approve of enhancement projects. Examples of moderates in this debate include Gregory Pence, Nicholas Agar, Allen Buchanan, and Dan Brock. The next sub-sections will provide a brief overview of the range of positions one can take in the moral debate on human enhancement. It is for informational purposes, and a more critical discussion of these philosophical positions will be undertaken later on in this work during later chapters.¹³

The Bioconservative position

Borrowing from Rebecca Roache and Steven Clarke, Bioconservatism can be roughly defined in terms of two related claims: ‘...the moral claim that human enhancement is

¹¹ See: George J. Annas, Lori B. Andrews and Rosario M. Isasi, “Protecting the Endangered Human: Toward an International Treaty Prohibiting Cloning and Inheritable Alterations,” *American Journal of Law & Medicine*, Vol. 28, Nos. 2 & 3, pp. 151–178 (2002), Sandel, Michael. ‘The Case Against Perfection: What’s Wrong with Designer Children, Bionic Athletes, and Genetic Engineering’ *The Atlantic*, April 2004. Fukuyama, Francis. *Our Posthuman Future*. (New York: Farrar, Straus and Giroux). 2002. Ida, Ryuichi. ‘Should We Improve Human Nature? An Interrogation from an Asian Perspective’. In *Human Enhancement*, ed. Nick Bostrom and Julian Savulescu. Oxford University Press, 2009. Leon R. Kass, “Ageless Bodies, Happy Souls,” *The New Atlantis*, Number 1, Spring 2003, pp. 9-28.

¹² See Bostrom, Nick and Savulescu, Julian. *Human Enhancement*. Oxford University Press. 2009.

¹³ For example, in chapter five I will return to several bioconservative arguments that I think are wholly compatible with the harm principle and its application to bioenhancement. And in chapter six, we will revisit a different iteration of Michael Sandel’s objection to designer children---this time, with my own interpretation of the societal harm that will result, complete with an axiological account of the cause for this harm.

intrinsically wrong, and the political claim that it should therefore be banned or severely restricted.¹⁴ Some might argue that the term ‘Bioconservative’ cannot strictly be defined by such claims because many so-called Bioconservatives do not explicitly aim their normative arguments against all categories of biological enhancement, but to varying degrees, they implicitly condemn many or most biological enhancements. This may give cause to question whether the term ‘Bioconservatism’ refers to a well-defined concept. Despite this, I devote some time here to this philosophical position because it has received appreciable attention in the debates that are germane to biomedical human enhancement.

Arguments for the Bioconservative conclusion are varied and numerous, but the essential feature of the Bioconservative thesis is the moral unease of using science and technology to enhance human capacities. This section will outline some of the more noteworthy arguments against the development of human enhancements. Throughout this work, I will address many of these positions and examine how they relate to my stance on how to handle moral and legislative concerns associated with human enhancement.

In a seminal piece published in *The Atlantic*, Michael Sandel expresses considerable concern about genetic engineering and its place in parental opportunities.¹⁵ Why is it wrong for parents to want to choose the genotype of their children? Sandel writes that ‘The problem lies in the hubris of the designing parents, in their drive to master the mystery of birth. Even if this disposition did not make parents tyrants to their children, it would disfigure the relation between parent and child, and deprive the parent of the humility and enlarged human sympathies that an openness to the unbidden can cultivate’ (Sandel 2004). According to this

¹⁴ Roache and Clarke, ‘Bioconservatism, Bioliberalism, and Repugnance’. *Monash Bioethics Review*. Vol. 28 No. 1 (2009).

¹⁵ Sandel, Michael. ‘The Case Against Perfection: What’s Wrong with Designer Children, Bionic Athletes, and Genetic Engineering’ *The Atlantic*, April 2004

reasoning, it is wrong for parents to genetically alter their children in the hopes that the children will express some trait or talent because doing so changes the relation between the parents and their child. It alters the parents' (and I take it, societies') attitude of seeing children as 'gifts' which we ought to accept and love 'as they are', and replaces that attitude with one that views children as replaceable objects or products that can be modified with upgrades and gadgets. The 'openness to the unbidden', or 'take me as I am' attitude is replaced by the view that 'junior isn't good enough; let's make him better'. To take this reasoning to the next metaphorical step, we might say that genetically altering our children changes our view of them as being gifts to them being items on a shopping menu.

For Sandel, this line of argument is relevant beyond genetically engineering our children. More broadly speaking, genetically altering human beings is wrong because it is accompanied by another alteration in our values. Our values of life and personhood change when one can genetically change human beings. Our genetic mastery of ourselves 'threatens to banish our appreciation of life as a gift, and to leave us with nothing to affirm or behold outside our own will' (Sandel 2004). In that same article, Sandel explicitly applies similar arguments to enhancing muscles through drugs or gene therapy, improving memory, increasing height, and even selecting for gender in prospective children. For these reasons, Sandel appears to denounce many (perhaps most) categories of biotechnological enhancement as immoral, and on the broad and general scale, discourages these enhancements from being developed.

Another writer who has expressed serious worries about altering human biology to enhance human performance is George Annas. Annas believes that the scientific movement to alter human genes will progress to the point where at least two categories of persons may

be created: the unenhanced, and the enhanced. The unenhanced will have what we now think of as normal capacities and functions. They will possess the same intellectual capacities, physical strength, and maximum lifespans of the current human population; they will also be vulnerable to the same diseases. The enhanced humans, however, will possess physical and mental abilities that far surpass what the unenhanced are capable of acquiring. Members of this group will have far superior intellectual powers, be physically stronger and less vulnerable to disease, and will possess life expectancies significantly greater than the current maximum of 120 years. Annas and his colleague, in response to this prediction, have proposed that a UN 'Convention on the Preservation of the Human Species' be installed and deployed so as to enforce an international ban on 'species altering' research. Annas writes, 'Because it is the meaning of humanness (our distinctness from other animals) that has given birth to our concepts of both human dignity and human rights, altering our nature necessarily threatens to undermine both human dignity and human rights. With their loss, the fundamental belief in human equality would also be lost...If history is a guide, either the normal humans will view the 'better' humans as 'the other' and seek to control or destroy them, or vice-versa. The better human will become, at least in the absence of a universal concept of human dignity, either the oppressor or the oppressed' (Annas, 2000).

Annas and his co-authors argue that human enhancement research will change aspects of those who are enhanced that are fundamentally responsible for making us moral persons. Altering persons on this level will somehow extinguish the notion of human dignity and equality, and will therefore lead to oppression and injustice and inequality within society. To meddle with our species through human enhancement would damage the recognition that all persons are equally deserving of basic rights and considerations, and would thereby lead to

societal instability. This instability would take the form of either the enhanced oppressing the unenhanced, or the unenhanced rising up against the enhanced. A de-humanizing attitude will grow out of these genotypic differences, and may incite war between the groups.

Francis Fukuyama has claimed that Transhumanism, or the view that we should embrace human enhancement technologies, is ‘the world’s most dangerous idea’. In ‘Our Posthuman Future’, Fukuyama argues that human equality depends on some ‘factor X’ that we all share. Since this ‘factor X’ unites us in sharing the belief of human dignity and equality, once it is lost due to enhancing our capacities, our liberal democratic ideal of social equality will also be lost. The crux of Annas’ and Fukuyama’s worries regarding the proliferation of human enhancement research is that the large-scale application of bioenhancement research will so vastly change the human condition that it will result in the debasement of human dignity and will cause social inequalities between the unenhanced and the transhumans.

Finally, Leon Kass, former chairperson of the President’s Council on Bioethics from 2001-2005, has argued that bioenhancements will ultimately lead to a deterioration in human flourishing. He claims that when bioenhancements allow for the achievement of virtue, strength, success, and longevity at the simple price of consuming a pill or receiving a surgical procedure, such success becomes easily had where it once was rightfully earned. Moreover, the biological constraints that humanity has dealt with throughout our evolutionary history shape a life worthy of working for and appreciating. If we eliminate physical frailty, shorter lifespan, and limited cognitive capacities, our appreciation of life and the time we have been given will be lost. Instead, it will be replaced with an attitude of entitlement and illegitimate pride derived from ‘cheapening’ the value of the struggles and limits of life in the ‘natural’

state. In ‘Ageless Bodies, Happy Souls’, an essay published in *The New Atlantis*, Kass articulates these sentiments in the following way:

A flourishing human life is not a life lived with an ageless body or untroubled soul, but rather a life lived in rhythmized time, mindful of time’s limits, appreciative of each season and filled first of all with those intimate human relations that are ours only because we are born, age, replace ourselves, decline, and die—and know it. It is a life of aspiration, made possible by and born of experienced lack, of the disproportion between the transcendent longings of the soul and the limited capacities of our bodies and minds. It is a life that stretches towards some fulfillment to which our natural human soul has been oriented, and, unless we extirpate the source, will always be oriented. It is a life not of better genes and enhancing chemicals but of love and friendship, song and dance, speech and deed, working and learning, revering and worshipping. The pursuit of an ageless body is finally a distraction and a deformation. The pursuit of an untroubled and self-satisfied soul is deadly to desire. Finitude recognized spurs aspiration. Fine aspiration acted upon is itself the core of happiness. Not the agelessness of the body, nor the contentment of the soul, nor even the list of external achievement and accomplishments of life, but the engaged and energetic being-at-work of what nature uniquely gave to us is what we need to treasure and defend. (Kass 2003).

For Kass, the prospect of scientifically engineering our enhanced biological capacities brings with it the loss of the appreciation that is made possible by the limiting constraints that come with unenhanced biology. A short lifespan, restricted cognition, a mood that is dependent on the many fortunes and misfortunes that can befall anyone at any time, are all aspects of the unenhanced life that require a sense of struggle and eventual achievement so as to bestow value on what it means to have a good life. To extinguish these limitations would thereby extinguish the very meaning of human flourishing, and would leave us with a false and cheapened sense of conquering our very nature.

As we have seen here, Bioconservatives seem to approach many or all forms of bioenhancement with aversion. In contrast, the Transhumanist philosopher’s forecast of the moral and political effects of bioenhancement paints a different picture.

The Transhumanist position

Transhumanism is the thesis that substantial efforts in scientific and medical research should be focused on enhancing human capacities. Transhumanists argue that bioenhancement should be encouraged and embraced as it occupies the natural next step in the medical advancement of health and well-being. Nick Bostrom, a self-labeled Transhumanist philosopher at Oxford University, writes that ‘Transhumanists hope that by responsible use of science, technology, and other rational means we shall eventually manage to become post-human, beings with vastly greater capacities than present human beings have. Transhumanism has roots in secular humanist thinking, yet is more radical in that it promotes not only traditional means of improving human nature, such as education and cultural refinement, but also direct application of medicine and technology to overcome some of our basic biological limits’ (Bostrom 2003).

Bostrom maintains that an extension of traditionally acceptable ways of improving (i.e. enhancing) our lives through education, proper nutrition, medical operations and medicines that thwart the natural course of disease progression, is the utilization of biotechnology for enhancing our lives by altering our biological make-up. Along this pro-enhancement line of reasoning, human enhancement is a scientific prospect that should be investigated and promoted with the appropriate regard to safety and distributive justice kept firmly in mind. Moreover, Bostrom elsewhere points out that ‘One common argumentative strategy, used predominately to buttress pro-enhancement positions, is to highlight the continuities between new controversial enhancement methods and old accepted ways of enhancing human capacities. How is taking Modafinil fundamentally different from imbibing a good cup of tea?’ (Bostrom 2009). Indeed, part of the burden of demonstrating that various types of bioenhancement are morally suspect and ought to be legislated against is

to provide a principled distinction between currently accepted methods of improving our capacities, such as caffeine use for improved alertness and a high-protein diet for enhanced muscular strength, and more controversial methods of bio-enhancement, such as the viral injection of IGF-I intramuscularly for enhanced muscular strength. Transhumanist philosophers will point to this as a way of strengthening the case for radical human enhancement.

Another Transhumanist strategy which is utilitarian in nature is to claim that the responsible promotion of biotechnology for human enhancement is not only morally permissible but morally required. Utilitarianism roughly holds that those acts that we ought to perform are those that promote the most happiness for the greatest number of people. Likewise, those acts are wrong that promote unhappiness, pain, or suffering. J.J.C. Smart, a contemporary defender of utilitarian ethics, writes that, 'Roughly speaking, act-utilitarianism is the view that the rightness or wrongness of an action depends only on the total goodness or badness of its consequences, i.e. on the effect of the action on the welfare of all human beings (or perhaps all sentient beings)' (Smart, 1973). If biologically enhancing human capacities would increase human happiness, utilitarians may conclude that such enhancements are morally required. The concept of enhancement includes the idea of making something better or improving upon the well-being of the one enhanced. Australian bioethicist Julian Savulescu has argued that humanity's moral obligation may turn out to consist in responsibly pursuing the requisite biomedical research that would make possible significant enhancements to human capacities. If we assume that utilitarianism is true, and if it is also true that biomedical enhancement will improve the general welfare of humanity or make for a better state of affairs when compared with the state of affairs in which biomedical

enhancement research is not pursued, then the pursuit of human enhancement would seem to be a duty.¹⁶

Of course, the pro-enhancement side does not argue that any and all biomedical research ought to be pursued without regard to safety and the consideration of legitimate threats to values such as human dignity and social equality. Indeed, some philosophers who favor enhancement may argue that the pursuit of scientific ways of improving on the various human capacities that currently have well-defined limits is a re-affirmation of what it means to be human, and therefore, a way of fully expressing human dignity and personhood. Our personhood and dignity are not represented and affirmed by the static maintenance of the status quo, but by the pursuit of improvement, progress and change. To take this a step further, bioenhancement might be viewed as a natural extension of evolution.¹⁷ In response to the Bioconservative worries that radical human enhancement would undermine human dignity and thereby cause social inequality between the enhanced and the unenhanced, this Transhumanist response would point out that these worries stem from assumptions about human nature that have limited support. Fukuyama's assumption that some 'factor X' is necessary for human dignity, and that this factor would be lost during drastic changes in human biology, is unsupported unless a thorough analysis of what 'factor X' consists in is provided. Without an account of human dignity and 'factor X', the Transhumanist will point

¹⁶ This would also need to assume that any non-human animal suffering that may coincide with the research to develop enhancement technology would be outweighed by the benefits reaped by humanity, either in quality, quantity, or some combination of both. Of course, one could make utilitarian arguments against human enhancement if one could show how human enhancement research will likely cause more suffering than it would utility. Throughout much of the debate, however, the argument typically revolves around if there is anything, in principle, wrong with human enhancement.

¹⁷ See Nick Bostrom's "In Defense of Posthuman Dignity," *Bioethics*, Vol. 19, No. 3, pp. 202-214., and 'The Wisdom of Nature: An Evolutionary Heuristic for Human Enhancement' w/ Anders Sandberg] [In *Enhancing Humans*, eds. Julian Savulescu and Nick Bostrom (Oxford University Press, 2009): pp. 365-416]

out that, throughout our evolutionary history, many modifications have been made to enable humanity to break free from limits imposed by the environment and biology.

Advances in medicine have provided us with tools to use for preventing and curing diseases that for millennia have contributed to significant suffering and pre-mature death. Vaccinations for viral infections and antibiotic medicine for combating bacterial infections modify human biology by training or boosting the immune system. Even Bioconservatives would agree these modifications have neither undermined our dignity nor exacerbated social inequalities that were already there prior to their institutions. The Bioconservative objection, therefore, must consist in explaining how human dignity, factor X, and social inequalities would be adversely affected by bioenhancement in ways that are lacking in these other changes that have improved upon human welfare.

Biomoderate positions

In the general debate over enhancement, some philosophers have articulated positions that do not easily conform to the Transhumanist or the Bioconservative theses. That is to say, some commentators have neither argued broadly against human enhancement technologies to the extent the Bioconservatives have done so, nor have they largely embraced or encouraged enhancement technologies like the Transhumanists. While some philosophers have self-identified as being either a Transhumanist or Bioconservative (i.e. Nick Bostrom as a Transhumanist), those philosophers who do not conform to either of these polar positions have been less inclined to label themselves as 'Biomoderate'. The range of possible positions that these philosophers take on the general issue of enhancement is quite diverse. For my own purposes here, I will consider those philosophers as Biomoderate who engage in

the debate on enhancement, broadly construed, but do not take positions that are largely in favor of or against biomedical enhancement. The general approaches taken by Gregory Pence, Nicholas Agar, Allen Buchanan, and Dan Brock exemplify the broad range of possible perspectives that do not conform to the Transhumanist or Bioconservative model. I consider these authors because they all discuss the concept of harm in their respective works, but, as I will argue in the next section, a serious philosophical treatment of harm and the harm principle is still needed in the literature on human enhancement.

These writers could be considered Biomoderate to the extent that they depart from the Transhumanist and Bioconservative approaches discussed previously. Biomoderates do not express attitudes of strong enthusiasm for enhancement, nor do they abhor enhancement like the Bioconservatives. Gregory Pence, in his book ‘How to Build A Better Human’, thinks that it does not make much philosophical sense to be broadly in favor of or against enhancement. I agree with Pence on this point, and we both share similar reasons for this claim: different enhancement technologies will have different ethical and social implications. Pence then goes on to express his philosophical meditations on various different enhancements ranging from drugs, physical enhancement, to cognitive enhancements to mood enhancements, coming to different conclusions about each enhancement by evaluating each one on the basis of its own merits and demerits.

In his book ‘Humanity’s End: Why We Should Reject Radical Enhancement’, Nicholas Agar’s take on enhancement is one that is moderate in more literal sense of the term. His central thesis is that while enhancing human beings to a ‘moderate’ extent is permissible, radically enhancing human beings is dangerous and should be avoided. According to Agar, if more people could live healthier lives until age 100, that would be a

good thing, since some people already live to be 100. However, when radical enhancement takes human healthspan significantly beyond what is possible now (i.e. 500 years old), humanity will fundamentally change in ways that dangerously risk the loss of important values. Similar arguments are made for other enhancements, like radically enhancing intelligence.

Allen Buchanan contends in ‘Beyond Humanity?’ that the Bioconservative movement against many or most enhancement technologies uses poor arguments. Many of these arguments rest on false assumptions about biology, while others are poorly articulated expressions of unease. Buchanan’s position is moderate in that he notes that while he is strongly against the anti-enhancement group, he is still cautiously optimistic about how and whether to pursue many types of radical enhancements. This cautious optimism does not, however, escalate to the Transhumanist’s strong activism for enhancement.

Finally, Dan Brock’s piece ‘Enhancements of Human Function: Some Distinctions for Policymakers’ enumerates what he calls a ‘miscellany of moral problems’. These problems include worries about positional advantages gained by users of enhancements, social pressures to conform, and the potentially harmful effect of social exclusion of those who do not have ‘favored’ traits in a society that can now use biomedical technology to select against so-called unfavorable traits. Brock’s piece does not argue for or against these moral problems, indicating a moderate stance on enhancement. Instead, Brock’s approach raises moral and social issues as necessary conversations to engage in if we are going to think philosophically about human enhancement.

The harm principle and the enhancement debate

In this work, I will consider the question of human enhancement by utilizing a normative framework in the classical liberal tradition based on John Stuart Mill's 'On Liberty' and Joel Feinberg's thesis in his book, 'Harm To Others: The Moral Limits of the Criminal Law'. I follow the 'spirit' of Mill's thesis insofar as his work laid an important foundation in proposing the harm principle. I adhere more closely to Joel Feinberg's modification of Mill's harm principle, along with Feinberg's indispensable analysis on a definition of harm. In 'On Liberty', Mill famously argued that the only morally legitimate reason for the state to interfere with the liberty of citizens is to prevent harm to others. While Mill's thesis can be considered a radically strong position as it excludes any and all other reasons for legitimate state intervention, the sentiment expressed by Mill is still relevant in contemporary moral and social philosophy. Individual liberty and autonomy are considered important ingredients in a contemporary society that follows the tradition of classical liberalism, and if any state interference in liberty is to be morally justified, exacting reasons must be provided for limiting individual liberty. Harm to others is generally considered a crucial justification for limiting individual liberty. Joel Feinberg continues in Mill's tradition and provides a softer (and more plausible) version of the harm principle, along with a thorough analysis of a normative conception of harm. Feinberg's version of the harm principle holds (roughly) that the prevention of harm to others is always a good reason in support for the state to intervene in individual liberty. The accompanying concept of harm is to be understood as a wrongful invasion of another's interest. Chapter Two of this work will be devoted to articulating my interpretation of Feinberg's concept of harm.

My interpretation of combining Feinberg's account of both harm and the harm principle will provide a normative framework that can help guide our moral and legislative reasoning on the various types of human enhancement. Applying the basics of this normative framework to human enhancement debates may afford insight into initial moral conclusions and into considerations for drafting social policy and regulatory constraints of these biotechnologies.

My approach will have the following aims: 1) To identify which forms of enhancements are most harmful to others or carry high risks of harming others. In these cases, this will classify some forms of enhancement as morally problematic and also provide good reasons for considering regulations. 2) To determine which forms of enhancements are consistent with the harm principle (as understood here) so that attention can then be focused on other normative considerations related to enhancement that do not pertain to harm to others. An enhancement technology being consistent with the harm principle can be seen as a necessary but not a sufficient condition of a particular form of enhancement being deemed morally legitimate. Since harming in this context entails a wrongful invasion of another's interest, all instances of harming are immoral. However, it is also true that the extent to which state intervention is justified in these cases must also depend on various pragmatic considerations with respect to economics, enforcement issues, and the way in which various regulation proposals affect other values, like individual liberty. Throughout this work, it will be important to remember that harm to others provides a good reason in favor of legislation, but this must be hedged by an 'all things being equal' caveat. Competing pragmatic considerations must be weighed against reasons relevant to harm that would favor regulation. That a particular type of enhancement is consistent with the harm thesis need not entail that

there not exist other reasons to constrain the deployment of that particular enhancement. For these reasons, the harm principle is neither a necessary nor a sufficient condition for social policy and legislating.

My approach to enhancement is also likely to allow for people with diverse views about values to find common ground for agreement without having to assume the superiority of any particular moral theory. For example, some philosophers may approach the question of human enhancement under the assumption that utilitarianism is the correct moral paradigm, while others might work under an ethics of virtue. Other thinkers' loyalties may be with a Kantian approach. Although this type of moral theory-specific approach is a useful exercise in determining how much happiness or misery might result from human enhancement technologies, or to what extent human enhancements are compatible with the development of a virtuous character, there is vast disagreement over which moral theory is correct. To avoid this problem, I will not assume that any particular moral theory is true. In this work, I do not argue for deontological reasoning over utilitarian theories, nor do I espouse virtue ethics over situational ethics. Rather, I begin the moral inquiry into human enhancement with a simple question of whether harm will be inflicted on others in the use and pursuit of such technologies. While the more difficult questions regarding the primacy of one moral theory over others are important questions to address, inserting these questions into the context of debates on human enhancement further complicates the discussion. Philosophers will be unlikely to find much common ground if they begin from different assumptions about ethical theory. Instead, by focusing on the more basic question of harming others, we can accept that if there are any good reasons to limit the liberty of

persons in society, then preventing those activities and behaviors that harm others would be a generally agreed upon standard.

The structure of this project contains two segments: a theoretical part and an applied part. The first half of this work, the theoretical part, will be devoted to my interpretation of Feinberg's harm principle and the concept of harm. The second part of this project will consist of the application of the harm principle to three main categories of human enhancement: a) genetic and pharmaceutical measures for enhancing physical strength and fitness b) cognitive enhancement c) genetic engineering used by parents to enhance a child's genotype to express particular talents, abilities, physical traits, etc.

These three categories of enhancement were chosen because they collectively express the ubiquitous ways in which biotechnology may impact every aspect of our lives. The role that biological human enhancement may play in our everyday lives could be vast and exhaustive with respect to our physical bodies, our minds, and the beginning of our lives.¹⁸ It is my hope that the careful application of the harm principle to these categories of bio-enhancement can provide some examples of how the moral philosopher and the legislator can utilize my approach to arrive at preliminary conclusions that a reasonable person can find acceptable.

This approach, then, will be different from the approach to human enhancement that has been characterized by the divide between Transhumanists and Bioconservatives. The so-called 'fault-line' that writers like Nick Bostrom, Rebecca Roache, Steven Clarke, Michael Hauskeller, and James Hughes have identified as an aspect of the debate between the Bioconservatives and the Transhumanists will be put aside. With respect to the Biomoderate

¹⁸ In a word, 'Body, Mind, and Birth' is the motto from which we can grasp the pervasive implications bioenhancement technology has and will have in regards to main aspects of humanity.

option, my proposal could be viewed as a useful addition to the various approaches that moderate commentators have proposed. Determining the moral and legal status of various forms of bio-enhancement will consist of questions related to harm to others. This point of view does not separate commentators into teams who are ‘for’ or ‘against’ enhancement. Instead, I will approach human enhancement with a narrow and unified focus on harm to others by applying the harm principle (after an analysis of the harm principle and the concept of harm) to specific types of bio-enhancement.¹⁹ The applications of the harm principle in this work will provide important moral insight into specific types of enhancement which can provide some guidance into considerations of social policy. These conclusions will be the product of starting from theoretical premises (the moral/political framework that I argue for and propose) which many reasonable thinkers, both Bioconservative and Transhumanist, can accept as a legitimate starting point for determining the normative status of bio-enhancements. This reasoning also departs from many writers who analyze specific types of enhancement from a large array of normative assumptions (i.e. cost/benefit analysis, civil liberties, causing offense/ repugnance, etc.), since the approach here is a focused analysis of particular categories, unified under the harm principle. The conclusions drawn about physique enhancement, cognitive enhancement, and genetically modifying our children will therefore represent philosophical results originating from a common background.

¹⁹ Consider the following analogy. In U.S. politics, one might first choose a political allegiance (say, Republican or Democrat), and then, based on that party allegiance, decide how to rule on a certain political issue (say, the death penalty). Analogously, when faced with the moral/political question of human enhancement, one might consider the topic as a homogenous whole and choose to side with either the Bioconservative side or the Transhumanist side. Based on what side one has chosen, decisions on particular enhancements will then follow that partisan lead. Instead of this general approach to human enhancement, my methodology will make it such that the moral framework that I use to ‘test’ the moral and social permissibility of specific types of enhancement will yield normative and legislative answers that will be consistent with both the Bioconservative and the Transhumanist parties. Instead of the aforementioned ‘top-down’ approach, my strategy will be to take human enhancement on a case-by-case basis, which will yield a Biomoderate position in the end.

Advancing and supplementing the current discussion on enhancement

As I have briefly outlined here, many philosophers have approached these issues by discussing the enhancement project broadly construed and arguing for conclusions that range from Transhumanist to Bioconservative. Within these debates on the merits of using biomedical technology to significantly enhance human capacities, there has not been much attention paid to the question of harm. While some authors mention harm as a concern that will need to be considered with new biotechnology, their comments are typically only cursory remarks. In this section, my main focus will be to situate my own project of an application of the harm principle to topics in human enhancement within the general body of literature on the ethics and social policy for human enhancement. I argue that although extensive philosophical ground has been covered in the debate about biotechnology and enhancement, there have not been many in-depth discussions about harm to others as it relates to biomedical enhancement technology. As such, there is a significant need for both understanding the concept of harm and applying the harm principle to the central issues in biomedical human enhancement. Successfully doing so will have important implications for policy recommendations.

The largely pro-enhancement position, sometimes referred to as Transhumanism, typically advocates in favor of pursuing and using biomedical technology aimed at human enhancement with the proviso that the use of such technology is not harmful to others. For example, Julian Savulescu devises a list of what he calls ‘limits to procreative autonomy’; that is, a list of considerations that justify restricting parental choice to enhance (either genetically or other biological intervention) their children when such enhancement

technology becomes available. The list consists of the following: “1) safety; 2) harm to others; 3) distributive justice; 4) such that the parent’s choices are based on a plausible conception of well-being and a better life for the child; 5) consistent with development of autonomy in the child and a reasonable range of future plans.”²⁰ Savulescu actually points to the last two items on the list as being of high importance, with ‘harm to others’ receiving no additional mention.

Similarly, Nick Bostrom, a philosopher who has written extensively on Transhumanist thought and who co-founded The World Transhumanist Association with David Pearce, has devised The Transhumanist Declaration. This short treatise was created to provide a brief summary of the main principles of the Transhumanist movement. The declaration contains eight proclamations, none of which explicitly address harm to others. Some of the proclamations address important normative concerns associated with developing and using enhancement that include reducing risks of existential threats, maintaining a morality of inclusion, promoting autonomy, and expanding well-being to all sentient life. While these normative issues are important concerns that need to be directly and extensively addressed, much of Bostrom’s work about the drawbacks of transhumanism revolves around mitigating existential risk (technological advances whose side effects result in the extinction of human life) and promoting increases in well-being. But between the avoidance of the permanent destruction of sentient life, the promotion of a vague conception of autonomy, and expanding the well-being of all sentience, there is a vast area of normative ground that still needs to be addressed. There is a need, in the Transhumanist context, for a more detailed

²⁰ Savulescu, Julian. ‘Genetic Interventions and the Ethics of Enhancement of Human Beings’. In *Ethical Issues in Modern Medicine*, 7th ed. Edited by Bonnie Steinbock, John D. Arras, Alex John London. McGraw Hill Higher Education. 2008. Pg. 878.

discussion about harm to others and human enhancement. In addressing the concerns regarding the Transhumanist project, it would be important to have a sound philosophical account of what it means for A to harm B and to be in a position to know how, whether, and when various types of enhancement cause or risk harm to others. My own project provides a foundation for beginning to address these important concerns.

The Transhumanist discussion on human enhancement has reached a point where the potential benefits and promises that advanced technology offers humanity have already been made clear by those who champion the cause. Bostrom, Savulescu, and others have delved into why we should be interested in advancing enhancement projects. Transhumanist thinkers must now think seriously about important normative considerations relevant to the widespread use of enhancement technology, and a good place to start would be considerations about harm to others. Perhaps engaging in this normative analysis about harm to others will, in itself, help ease some of the alarmist concerns that have been raised by the Bioconservative movement. If anything, thinking seriously about harm to others could provide a common vocabulary through which these two sides in the debate can have a discussion without talking past one another.

In Bioconservative literature, writers attempt to articulate reasons to support their general moral unease toward using biotechnology to enhance human capacities. As I have noted previously, many commentators argue in favor of legislative bans and moratoriums against research into enhancement technology and the use of such technology should it become available. Bioconservative s' reasons for these bans and moratoriums are varied. Some raise concerns about predictions regarding social dislocation caused by enhanced human capacities. These worries typically take the form of Gattaca-like dystopian futures,

where the genetically enhanced class socially and economically oppresses the unenhanced, who become relegated to an underclass existence. Other Bioconservatives worry about the inherent morality of genetically selecting children or altering one's biology with drugs or genetic engineering. Frequently, a discussion is devoted to vague or ill-defined concepts like human dignity and distortions of familial relationships. While Bioconservatives differ with respect to their arguments for why we should be reluctant to biologically enhance human capacities, the concept of harm and the harm principle have received surprisingly scarce attention. At present, it remains unclear whether many Bioconservative objections stem from predictions about harm to others within the context of specific enhancement technologies, or if such objections are due to concerns not germane to a philosophical conception of harm and the harm principle. My project of gaining conceptual clarity about the notion of harm and applying the harm principle could have important implications for the Bioconservative literature. In gaining conceptual clarity on harm and applying the harm principle, Bioconservative objections to enhancement can be evaluated on the basis of whether they are concerned about preventing harm to others or instead are concerned about other values unrelated to harm. This would be an important step in better understanding the Bioconservative arguments that have been offered, and could provide a common vocabulary through which both Bioconservatives and Transhumanists can discuss enhancement. Since Biomoderates generally do not take a strong hardline stance on enhancement, there would be no need for such adjudication within their philosophical territory.

Additionally, getting clear on harm to others when surveying the objections to enhancement can have pragmatic advantages. Social policy and legislative decisions regarding enhancement will, in part, be influenced by arguments made against enhancement.

The type and the extent of state sanction or social policy will depend in part on whether harm to others is a salient and significant concern or not. Harm to others, when it is a significant concern, typically raises more serious considerations in favor of government sanctions or controls. Harm to others is generally considered to be one of the more important and most basic concerns regarding reasons in favor of government intervention in individual liberty. *Ceteris Paribus*, as the risk of harm to others decreases with respect to X, there is less support in favor of prohibiting X. Arguments and concerns not relevant to harm will generally elicit less urgent calls in favor of prohibitions and legal sanctions. Not all social costs associated with some behavior or actions are considered harmful, even though costs may play some role in determining policy and legislation. Allowing citizens to own and operate motor vehicles results in social costs, such as deaths from auto accidents, but these costs are not considered harms if the definition of a harm is a wrongful set-back to interests of others. Understanding which social costs are *harmful* can allow us to get a better handle on determining laws and policies. As such, unavoidable accidents are treated differently from accidents that are harmful due to negligence (driving while drunk, for instance). Furthermore, arguments against enhancement which appeal to other concerns, like harm to self and inherently immoral behavior, will garner additional scrutiny with respect to whether such reasons are morally legitimate justifications for state intervention in individual liberty. The point here is that analyzing enhancement through a framework focused on harm to others can result in a more organized discussion about whether and what social policies and legislation are warranted; harm to others may warrant certain policy recommendations whereas non-harm related concerns will warrant different recommendations. But without conceptual clarity on what it means to harm others and how to apply the harm principle, the

appropriate practical implications about social policy within the context of Bioconservative objections will be more difficult to ascertain.

Eminent Biomoderate commentators that mention or discuss harm include: Allen Buchanan, Nicholas Agar, Gregory Pence, and Dan Brock. Although all these writers acknowledge that considerations of harm in the enhancement debate are important, the issue of harm to others has still been inadequately explored. I argue that this inadequacy is especially conspicuous when we reflect on how important we normally think considerations of harm to others generally is within any applied moral or social issue. Avoiding harm to others is a basic pillar of morality and social policy, and it gets comparatively little attention. The primacy and importance we place on harm to others is disproportionately represented in the Biomoderate literature (and the literature on enhancement broadly construed), where harm as a general concept is given at most a chapter in a larger book, is typically only mentioned sparsely under an umbrella general discussion on risks or unfavorable outcomes, and is rarely discussed in terms of harm to others (the type of harm we are most concerned about). Where both general harm and harm to others are entertained as moral and legislative concerns, the conditions of harm are not adequately defined, and so the reader is left with further questions on which cases of harm we ought to be genuinely concerned about and which harms are merely ‘unsavory consequences’ that would be worthy of our ruminations but would not justify moral and legal proscription. In this section I briefly elaborate on these points.

Gregory Pence argues in ‘How To Build A Better Human’ that biomedical ethicists must be careful not to make broad generalized claims about the moral status of enhancement because some types of enhancements might be safer and have greater benefits than others,

which might carry greater risks and less benefits. Pence does make mention of John Stuart Mill's version of the harm principle by pointing to it as one of many considerations that need to be addressed with respect to different enhancements. While Pence's book provides interesting commentary on both the history and future of enhancement technology with his own philosophical views on each topic, there is no further explanation of how philosophers should apply the harm principle, and what philosophical definition of harm would best apply to the enhancement debate.

In 'Humanity's End: Why We Should Reject Radical Enhancement', Nicholas Agar contends that we should pursue what he considers 'moderate' enhancement while morally rejecting the pursuit of radical enhancement. For Agar, moderate enhancement consists of enhancing capacities to levels that approach or meet the levels that have been previously achieved by other human beings. Examples would include being able to run as fast as Usain Bolt or live to age 120. Radical enhancement, on the other hand, consists of enhancing capacities to levels far beyond those that have been ever reached by other human beings. To retain the previous examples, this would include running the 100 meter sprint in 5 seconds, or be able to live to the age of 250 years. Agar argues that obtaining the former type of enhancement would result in 'posthumans'. Agar worries that the 'harmfulness' (to use his exact term) of radical enhancement consists in our becoming posthumans, who will lose important values and experiences that humans now possess and share. While his arguments *that* posthumans might lose some values and experiences that humanity now shares have merit, it is not clear that these losses in values are in fact *harmful* (or even necessarily bad). Agar's arguments seem to end where the normative work needs to begin. If he is to argue that the change in values and experiences that humanity shares now is harmful, a more

complete account of the conditions of harm would be needed. Further, if such losses in value are not harmful in the sense that I offer here, then we could evaluate Agar's argument that we should not want to become posthuman not in terms of posthumanity being *harmful*, but rather, other prudential reasons not related to harm being worthy of consideration.

Dan Brock's piece 'Enhancements of Human Function: Some Distinctions for Policymakers' contains some important moral and social considerations that he argues warrant careful philosophical attention. The relevant parts of his piece concern what he calls a 'miscellany of moral problems', where the types of moral problems with enhancements being examined are the untoward consequences that the use of enhancements might have on others. At times, Brock refers to these problems as ones that could harm others; other times, they are merely 'moral problems' that concern the effects of enhancements on others. Some examples include: 1) The use of enhancements that carry some risk to the user while also conferring competitive advantage; those who choose to use these enhancements might put coercive pressure on others who do not want to accept the risks. 2) The use of genetic enhancements by parents on their children potentially leading to the objectification of children, and children may then see themselves not as autonomous persons but as objects. 3) Cases where the use of an enhancement might cause harm to others that do not include a disadvantage in competitions and coercive social forces. This last type of untoward effects Brock actually calls 'harm to others'. An example is whether disabled people are harmed when genetic technology or screening is used by expectant mothers to either prevent or test for disabilities in the unborn children. It is claimed that disabled people (i.e. those with Down's syndrome) are harmed when other people screen for such conditions in fetuses, as these practices send a message to the disabled community that demeans and devalues their

lives. Enhancements that allow people to choose certain physical traits over others may carry similar propensities to demean and devalue the lives of others who happen to have those traits that are ‘enhanced’ away. Unfortunately, no attention is paid to the question of what concept of harm is being used in this context, and whether these types of consequences of technology and information are merely unpleasant (and therefore not subject to legal sanction) or actually harmful (and possibly subject to certain moral judgments and perhaps state intervention). Feeling demeaned and devalued is an unpleasant experience, but not all unpleasant experiences are harmful. It remains an open question whether feeling demeaned should be considered a harm, where ‘harm’ carries with it all of the philosophical baggage that it does when connected with the harm principle. Certainly not all behaviors that have unpleasant effects on others are worthy of legal sanction or even moral blame. All of these moral problems discussed by Brock require a careful understanding of what it means to harm another and a version of the harm principle that can be applied to these examples.

In ‘Beyond Humanity?’, Allen Buchanan argues that the Bioconservative arguments that have been made against enhancement are either flawed in their assumptions or poorly developed. While he does not enthusiastically endorse the Transhumanist movement (he actually thinks there are only those who are anti-enhancement and those who are anti-anti-enhancement), Buchanan argues for a cautiously optimistic approach to enhancement technology, as the anti-enhancement arguments thus far have proven (by his lights) wholly unsatisfactory. In considering the anti-enhancement sentiments, Buchanan characterizes the dangers and risks of enhancement as a myriad of types of harms. In Chapter Six of his book, he focuses on biological harms, which he characterizes as damage to the human species that impairs functioning. While Buchanan’s discussion does provide important and broad insight

into potential dangers of enhancements (and why we might not think the dangers are concerning enough to outright ban enhancement), to use the term ‘harm’ as an umbrella concept that includes all bad consequences does not sufficiently address the sort of harm that is the focus of my project. The conception of harm that my project is concerned with is one that can be used with the harm principle to analyze categories of enhancement and guide our moral and legislative conclusions. This understanding of harm must be precise and detailed so as to separate merely ‘bad consequences,’ which could include all sorts of unpleasant but not truly *harmful* effects, from *bona fide* harms that would lead to good reasons in favor of regulation and moral criticism.

An alternative approach to human enhancement

It makes little sense, in my view, to try to articulate arguments that either generally favor or generally condemn enhancement, because the topic of enhancement is too diverse to be normatively evaluated all at once. This is the major problem with how Transhumanists and Bioconservatives have engaged each other in the debate of enhancement. In my opinion, asking whether medicines are good or bad is misguided in the same way that asking whether enhancement is good or bad. What we should be asking with respect to medicine and enhancement is which medicines and which enhancements are good or bad, and with respect to each medicine and enhancement, what social policy would best suit their uses. The same basic point applies to the concept of hobbies. Normatively evaluating hobbies as a general topic is a mistake, since some hobbies are more ‘benign’ than others with respect to danger and risks. Stamp collecting and top-fuel drag-racing are two hobbies that are different in

almost every respect, most notably with respect to risks of harm and loss. Normative approaches to evaluating hobbies would need to recognize the different categories of hobbies, just as normative evaluations of human enhancement must similarly recognize the eclectic nature of the concept of enhancement.

A few detailed examples of human enhancement can bring my point here to light: consider, on the one hand, the use of medical vaccinations for preventing diseases like smallpox, and on the other hand, the development of cognitive enhancements that can drastically improve working memory and concentration. A vaccine for smallpox enhances the immune systems of those who take the vaccine; it is no doubt a form of human enhancement. Similarly, a regimen of medications or genetic manipulations which can elevate and maintain cognitive functions would qualify as a form of human enhancement. Despite these two means of biomedical enhancement sharing the trait of boosting some human capacity, there does not seem to be much else that these two forms of enhancement share. Smallpox vaccines and cognitive enhancements are similar only in the sense that both biomedical interventions enhance a set of capacities, and it is here where the similarities end and the differences begin. These two types of enhancement are vastly different in their moral and social implications.

While a vaccine for smallpox distributed throughout a population will eradicate the disease by enhancing the immune systems of those who take the vaccine, the implementation of a way to significantly improve cognition will bring with it the potential for profound changes in our social and economic structure, levels of productivity, quality of life, attitudes about competition, and questions of distributive justice. A population-wide vaccine for smallpox will have the primary effect of preventing smallpox from killing people. This is a

very good thing and the various social consequences that would result from the eradication of smallpox would likewise be good. The social consequences of drastically improving cognitive capacities are much more uncertain and potentially worrisome. Our present economic and social structures may be rendered obsolete. Questions regarding the fairness of a policy that allows the use of such enhancers could arise within the context of social pressures that might impose these enhancements on unsuspecting or reluctant portions of the population. And concerns about a two-tiered society emerging where the ‘smarter’ class decides to rule over the ‘normal’ class must be addressed, as risks to civil liberties and rights are brought front and center.

These two categories or forms of enhancement have many more differences between them than similarities, and it is for this reason that the moral and legal question of human enhancement cannot be approached without evaluating the various categories of enhancement with respect to their own specific merits and pitfalls. It may very well be the case that one category of human enhancement would bring with it great benefits and benign side effects (both physical and social), while another type of human enhancement would bring with it harmful social side effects that either need to be mitigated in some manner or be highly restricted. An elixir that enhances the physical strength of its consumer by 200 percent but also brings with it a side effect of uncontrollable rage would need to be evaluated on these specific terms, and a generalized approach to human enhancement cannot capture this category-specific concern.

There are, indeed, philosophers who narrowly focus their normative analyses on particular categories of enhancement. For example, Christine Overall has evaluated the moral and legislative concerns revolving around life extension enhancement. Daniel Wikler

has written specifically about cognitive enhancement and its effects on civil liberties.²¹

While these focused analyses depart from the trend of being generally for or against biotechnological enhancement, they lack a common framework that can be used throughout each enhancement category and its corresponding inquiry, and so they remain wanting in terms of unification. In contrast to these types of focused discussions, my own approach has the advantage of allowing for a consistent (unified) way of evaluating categories of enhancement by using a single and well-defined liberty limiting principle (the harm principle). It is in this way that the harm principle can be used as a tool for legislators and ethicists in order to draw provisional conclusions on various categories of enhancement that are consistent and unified under a single rubric of normative measurement (i.e. harm to others). Applying the harm principle to the numerous categories of enhancement will ensure (as best as can be expected) that the conclusions we arrive at are done so by the use of the same basic moral and legal assumptions throughout each analysis.

Human enhancements, and their associated potential for problems, deserve detailed analyses. We are, after all, discussing the morality and social policy of technologies that bring with them unprecedented capabilities, power, and consequently, responsibilities. In order to achieve a more complete account of the moral worry and legislative questions that bioenhancement technologies will bring, we must proceed to analyze each main type of human enhancement with a philosophically acceptable framework.

²¹ For example, see Overall, Christine. *Aging, Death, and Human Longevity: A Philosophical Inquiry*; Berkeley California Press. 2003 and Wikler, Daniel. 'Paternalism in the Age of Cognitive Enhancement: Do Civil Liberties Presuppose Roughly Equal Mental Ability?' in 'Human Enhancement', edited by Nick Bostrom and Julian Savulescu. 2009.

-Chapter 2-

-The Theoretical Framework: The Harm Principle and a Conception of Harm

‘All mankind... being all equal and independent, no one ought to harm another in his life, health, liberty or possessions.’ —John Locke

In this chapter, I argue in favor of the harm principle as a reasonable principle from which an analysis of human enhancement can begin, and I articulate and support my interpretation of Joel Feinberg’s interest-based account of harm. I have argued previously that we should consider the different categories of human enhancement separately because each category of enhancement generates different moral and social issues. This raises the question of how one should proceed in dealing with the various categories of enhancement.

As noted in the Introduction, one possible philosophical analysis would be to work under the assumption of a particular moral theory and decide whether a particular form of bioenhancement is morally permissible under that moral paradigm. For example, a utilitarian philosopher would calculate the amount of social good (perhaps understood as happiness or pleasure) that would result from the development of a drug that enhances the user’s working memory. Evidence would be weighed and predictions would be made in regards to this utilitarian calculus. However, the main limitation with this approach of drafting social policy and determining moral boundaries is that widespread agreement on a particular moral theory, even utilitarianism, has not yet been achieved. This point applies also to methods that utilize any moral theory to evaluate human enhancement as a general topic, or to evaluate various categories of enhancement. Significant disagreement in normative ethics, therefore, can limit

progress in solving key issues in applied ethics. Starting from controversial premises cannot yield uncontroversial conclusions upon which many can agree.

My alternative suggestion is to begin the moral-political investigation of this class of topics by starting with the most basic liberty limiting principle a reasonable democratic society would readily accept---namely, what has been known as the harm principle. The most well-known version of the harm principle was developed and argued for by John Stuart Mill in ‘On Liberty’ (1859), and it has been an important element in western social philosophy ever since. As Thomas A. Mappes states, ‘The harm principle is the most widely accepted liberty-limiting principle. Few will dispute that the law is within its proper bounds when it restricts actions whereby one person causes harm to others. (The category of harm to others is understood as encompassing not only personal injury but also damage to the general welfare to society)’ (Mappes and Zembaty, 2002).²²

This approach avoids some of the broad disagreement that tends to accompany the many controversial moral theories. This approach will also be advantageous because, as a liberty limiting principle, it can be applied to categories of enhancement.²³ As Mappes had pointed out, very few would disagree with the harm principle as a legitimate guide for limiting liberty within a society. Instead of trying to determine whether human enhancement is morally consistent with utilitarianism or deontological theory, and then deciding on social policy from those premises (premises, as I have argued, that many would disagree with from the start), my prescription for dealing with human enhancement is to: 1) Deconstruct the topic into different forms of enhancement (i.e. physique enhancement, cognitive

²² The version of the harm principle that I support in this work has been refined and modified by Joel Feinberg. It is a slightly ‘weaker’ version of the harm principle for which Mill seems to have advocated, but the principle’s overall ‘spirit’ remains.

²³ Indeed, I will do just this in part II of this work by applying the harm principle to categories of enhancement.

enhancement, designer children). 2) Analyze several forms of enhancement within a theoretical framework that is both broadly appealing and fundamental in its normative scope (i.e. the harm principle).

While my approach seems to rely heavily on broad agreement and intuitions about moral sensibilities, my task is not to discover the ‘objective truths’ about the moral and legal status of enhancements, nor is it to decide which basic principle of social and applied philosophy is the ‘correct’ one. These metaethical questions are certainly important, but they are not the topic of this work. Instead, my approach is aimed at creating a more basic principle that can guide our initial investigations into the various types of biomedical enhancement that raise urgent moral and legal concerns. My approach should not be viewed as being *the* objectively correct approach (there may or may not be such a thing), but rather an improvement on and supplement to the main alternative approaches that have been suggested. The extent to which this account arrives at ‘correct’ answers will depend in part on whether it engages well with the most basic moral sensibilities that are shared by reasonable individuals. The merit of my approach can best be seen when compared to the various alternative methods of inquiry into enhancement that have become commonplace in the literature. Rather than evaluating bioenhancement by appealing to more highly controversial moral theories, I start with a basic principle that has garnered more general acceptance. I also maintain that many types of enhancements should be evaluated separately, instead of being judged as a group that one can only be for or against.

This investigative format does not yet speak to the question of how far the harm principle should extend and whether it can answer all of the moral and political questions raised by enhancement. The harm principle, as applied to categories of enhancement, may

not be able to provide complete moral /legislative answers on all of the issues. That a particular type of biotechnology is compatible with the harm principle as developed here does not guarantee that there are no other reasons, moral, practical, or otherwise, for more strictly regulating or even banning that type of biotechnology. The recent commentaries mentioned previously have been unsuccessful attempts at providing such a final analysis.²⁴ My view is that an analysis which begins with fundamental moral/political principles that many of us can agree upon is a great first step to the possibility of eventually achieving a final analysis. This first step is necessary for guiding a more complete moral inquiry into biotechnology. Nonetheless, this first step, on its own, is bound to have limitations, as I will address later on in this chapter.

The harm principle: What it means and how it operates

As Mappes correctly points out, few would disagree with what the harm principle basically states---that all things being equal, the state has good reason for prohibiting individuals from acting in ways that harm others. My focus for this section will be to explain what constitutes harmful conduct.

To borrow Feinberg's formulation, I understand the harm principle as a liberty-limiting principle to be: *It is always a reason in favor of legislation that it would probably be effective so as to prevent those act-types that are either harmful to another person or persons distinct from the actor, or that bring about significant risk of causing harm to another person or other persons* (Feinberg 26). The harm principle defined as such only proscribes those act-types that are harmful to persons other than the actor. That is to say, the harm principle

²⁴ I.e. utilitarian based approaches, Michael Sandel's, Nick Bostrom's, etc.

does not weigh in on the status of act-types that are deemed to be harmful to the actor herself. Suicide, self-inflicted bodily injury, poor dietary habits, and otherwise acting in ways that one knows to contribute to harm to oneself are beyond the scope of the harm principle.²⁵

One must also always keep in mind that the harm principle, as a liberty-limiting principle, is neither a necessary nor a sufficient condition for the permissibility of coercion by the state. The harm principle I endorse in this document is not a necessary condition for state force because I do not argue that harm to others is the *only* reason the state must have for passing legislation or limiting freedom. Furthermore, the harm principle is not a sufficient condition for coercion by the state because considerations of harm to others must always be weighed against various other considerations within the context of drafting legislation and social policies. Legislation and policy, while guided by the harm principle, must also be guided by considerations of economic costs of policies and legislation, justice, the effects certain laws and the enforcement of such laws will have on overall liberty, and other various issues. However, even though the harm principle is not a necessary condition for limiting *freedom*, it still plays an important role in analyzing social and moral issues. Likewise, one can recognize that the harm principle is not a sufficient condition for warranting *coercion* by the state, while at the same time acknowledge the central role considerations of harm to others plays in analyzing social and moral issues.

The next question that needs to be addressed is the conditions under which some person, A, can be said to have harmed another person, B. In colloquial conversation, the verb ‘to harm’ and the noun ‘harm’ are used in general and expansive ways. Not only do we

²⁵ This is not to say that some act-types that are harmful to the actor are not immoral or should not be criminalized—the point here is merely that the harm principle as it stands on its own is silent on the legitimacy of moral and legal paternalism.

sometimes use the term to denote instances of injury or evil befalling someone or someone's situation (i.e. he was harmed when his sleeve got caught in the milling machine at work and his arm was mangled; dozens of people were harmed when the tornado ripped through the town and destroyed buildings and homes), but we also use the term to talk about non-living 'victims' of such harms or evils or injuries. We can make sense of talk about harming a national monument or harm befalling a non-physical entity, such as Jones' actions bringing about harm to the law firm for which he works, or a traitor who has harmed his country. In some instances, we can even understand what it would mean for someone to say that a person's legacy has been harmed without that person being alive to suffer any harm.²⁶ All that being said, the main type of harm that I would like to focus on, with respect to the harm principle, is the use of the term as it relates to individual persons and groups of persons.

The proper subjects to which we can assign harms are persons. This means that the harm principle operates on at least two levels: the individual-to-individual level, and the level of an individual committing an act that is harmful to a group of other individuals. In other words, the harm principle can be invoked to prevent an individual from suffering harm and to prevent harm from being suffered by society or humanity (that is, acts that bring about harm to a great many individuals of which society and humanity are composed). The scoundrel who punches his neighbor in the nose because he dislikes his neighbor's new haircut harms his neighbor just as factory executives inflict harm to an entire town or community when they knowingly conceal the spillage of toxic waste into the water supply of that nearby town. The distinction between these two manners in which harm can befall a victim and victims is

²⁶ For an interesting discussion about posthumous harm and the possibility of evil befalling the dead, see Joel Feinberg's discussion of posthumous harm in 'Harm to Others' Ibid. Also, John Fischer's *Metaphysics of Death*. Stanford University Press 1994 offers good discussion on this topic. Finally Aristotle addresses this topic in *Nicomachean Ethics*, Book I.

an important one, and one that will come into play when the harm principle is applied to the categories of human enhancement. However, there is a sort of ambiguity here. There are instances in which harm to a group can be reduced to the amalgamation of harm done to each of the individuals. There are also instances of group harm of a different kind, wherein harm to a group would not necessarily be reducible to the harm done to each individual. Instances in which each member of a specific group were harmed by the same type of interest thwarting behavior might instantiate the first sense in which group harm can result. A prowler who breaks into the houses of exactly five of the neighborhood's homeowners harms the neighborhood (the group) in such a way that we can reduce the harm done to the neighborhood to the harm done to the individuals who were burgled. In this sense, the neighborhood being harmed is reducible to the individuals being harmed. What this distinction does not entail is that some group, which is comprised of individuals, can be said to be harmed without any harm befalling any of the individuals belonging to that group. That would require that non-persons could be candidates for being harmed, and a metaphysical argument in defense of this sort of claim would be beyond the scope of this dissertation.

There are cases where we might think that harm inflicted on a group cannot solely be understood in terms of certain specified harms to each individual who can make a concrete claim. We can intuitively say that humanity suffered harm distinct from harm suffered by the individuals who lost their lives during the war atrocities of the Holocaust. The harm suffered by individual victims of the Holocaust was very bad indeed, and humanity suffered as well. Humanity is worse off, even when we control for the individual victims and their corresponding harms, given that the Holocaust happened. The total harm that was inflicted by the prowler and the Nazis in both examples include the individuals that were harmed plus

the neighborhood harm and humanity harm. Therefore, in applying the harm principle properly, we should be cognizant of not only harmful effects of certain act-types suffered by a particular individual, but also those harmful effects that are suffered by many individuals who may not have been direct victims of harmful conduct.

Definitions of harm

The harm *principle*, as stated, informs us about what reasons count as good reasons in favor of state coercion, but it is silent on what it *means* for someone to be harmed by another individual. At this point, I will consider some representative definitions of harm from the literature, and demonstrate that Joel Feinberg's definition of harm is the most applicable to my purposes here. Ultimately, I will use my interpretation of Feinberg's account of harm, combined with the harm principle, as the theoretical foundation upon which I will analyze various types of enhancement technologies.

One way to paint the geography of the literature on harm would be to separate comparative theories from non-comparative theories. Comparative theories conceive of harm as making someone's condition worse off compared to some other condition. This is sometimes called the counterfactual account. Alastair Norcross characterizes the comparative approach to harm as, 'An act A harms a person P if P is worse off, as a consequence of A, than she would have been if A hadn't been performed.'²⁷ The idea here is that harming an individual consists in making that individual's condition worse off when compared to what that individual's condition would have been had he or she been left alone. So if Jones punches Smith in the face, Jones' act of punching Smith is harmful to Smith,

²⁷Norcross, Alastair. 'Harming in Context'. *Philosophical Studies* (2005) 123: 149–173

whose condition is made worse when compared to the closest possible world in which Smith is not punched by Jones. In this latter world, Smith does not have a black eye, whereas in the actual world, Smith has a black eye; thus, Jones harmed Smith when he punched Smith.

A well-known problem with this account is called the preemption problem. Since an act is harmful if and only if it leaves me worse off than otherwise, then I am not harmed in the situation where John shoots me dead one millisecond before Bill blows me up with a grenade. In the closest possible world in which John did not shoot me dead, I still would have been killed by Bill's grenade. So according to this comparative account of harm, I'm not made worse off by John's slug because I would have been blown up by Bill's grenade anyway. I am therefore not harmed as ascertained by this theory of harm. This is implausible, since we certainly think that John harmed me when he shot me, regardless of whether I would have been blown up by Bill's grenade or not.

A more general problem with the comparative account of harm is that it is not an account of harm that is defined to a sufficient extent so as to yield plausible results by way of the harm principle. Simply making people worse off is not by itself a plausible reason in favor of moral condemnation and/or state intervention. For example, fair economic competition, where one business's success is had by the failure of a competitor, would be an instance in which someone is made worse off, but we would not plausibly claim that the state has good reason to criminalize all forms of economic competition, nor would we plausibly claim that such competition is immoral. While being made worse off might be a component of some instances of harm, we may not want to commit to the thesis that harm is essentially to be made worse off.

Due to these problems, the comparative approach to harm is not suitable for my purposes. The alternative way to define harm is to use a non-comparative approach. This is the method that Elizabeth Harman, Seana Shiffrin, and Joel Feinberg use. On non-comparative approaches, harm is to be understood as being in some state or condition that is bad. To be harmed is not essentially to be made worse off, although I think non-comparative theorists can and will accept that many (but not all) harmful acts make people worse off.

Elizabeth Harman's non-comparative proposal is not an actual account of harm; rather, she offers merely a list of what she thinks are examples of harmed conditions. For Harman, 'An action harms a person if the action causes pain, early death, bodily damage, or deformity to her...' (Harman 2004).²⁸ Harman's list identifies some states that are considered to be harmful to their possessors, but it does not include *all* of the conditions of harm. While such a proposal for harm is useful for some purposes, it is not appropriate for my project.²⁹ This list of conditions includes some cases of when a person is harmed, but it is not a unified account that offers insight into the essential nature of harm.

A more useful non-comparative account of harm has been offered by Seana Shiffrin, who identifies harm as being alienated from what one rationally wills, or having one's rational will frustrated. Shiffrin proposes the following: '...what a harm is will bear a strong connection to the underlying individual's conditions of autonomy and whether the state she is in constitutes an obstruction or impediment of her control over substantial elements of her experience,' and she further suggests that, '...harm involves a distinctive sort of frustration or impediment of the will or of the ability to exert and effect one's will.'³⁰ More specifically,

²⁸ Elizabeth Harman, 'Can we harm and benefit in creating?', *Philosophical Perspectives*, 18, Ethics, 2004.

²⁹ Harman's proposal is aimed at addressing the non-identity problem.

³⁰ Shiffrin, Seana Valentine. *Harm and its Moral Significance*. Legal Theory. 2006.

Shiffrin thinks that the essential feature of harm is a condition under which a person's autonomy is made ineffective, estranged or alienated from her life experiences (Shiffrin 2006). I take it that on this account, A harms B when A acts in a way that prevents or frustrates B's autonomy or will to pursue or experience her (B's) projects, experiences, or life goals.

Shiffrin's account is not vulnerable to the preemption problem to which comparative accounts must answer. If John shoots me one millisecond before Bill's hand grenade blows me up, I am still harmed according to this will-based account, because it does not matter that I would have been blown up had John not shot me; what matters is that I had a rational will to avoid getting shot. Being shot by John's bullet is to be in a state that is harmful, regardless of whether there were other killers waiting in the wings had John's aim been poor. Also, Shiffrin's account is unified in that it attempts to explain the essential nature of harm; so it is more complete than Harman's proposal.

However, the will-based account has its own shortcoming. According to this account, in order to be harmed one must have a rational will that can be frustrated, since harm involves thwarting one's autonomy. This would entail that those who do not have autonomous wills could not be harmed, which is a highly implausible result. Severely brain-damaged human beings and animals do not have rational wills that can be thwarted, and so on the will-based account, they cannot suffer harm. But this seems counterintuitive, since most would agree that animals can be harmed, as can brain-damaged human beings. An account of harm that identifies harm as being in states that persons do not rationally will fails to explain how those without rational wills can still be harmed.

We normally think that animals (at least some animals) can be harmed because they are capable of suffering, and they have welfare interests in things like bodily health and continued life. Generally, animals that have mental lives that enable them to suffer or experience pain have interests in bodily health and integrity. It is when these interests are damaged that we say that an animal has been harmed.

On the other hand, brain-damaged humans who have the capacity to feel pain and to suffer do not have rational wills that can be thwarted, but they do possess interests in bodily integrity, psychological well-being, health, and the like. Indeed, in medical situations involving never-competent patients, where decisions need to be made on whether life sustaining medical interventions ought to be continued, a common and well established approach for basing such decisions considers the *best interests* of the patient. Consider the case of Sheila Pouliot, a 42 year-old woman who was profoundly intellectually and physically disabled due to complications from the mumps she suffered as an infant. She was non-verbal, non-ambulatory, and also suffered from seizures and chronically dislocated joints. After her body could no longer accept tube feeding, she presented at the hospital with GI bleeding, fever, and pneumonia. Her doctors and remaining family agreed that further resuscitation and treatment would be unnecessarily invasive and inhumane, and morphine sulfate would be the only remaining palliative care administered in her final illness. However, the laws of the state of New York at the time would not allow for family or surrogates to withhold artificial nutrition or hydration from never-competent patients, so Ms. Pouliot was ordered to be kept alive by 300 calories of IV solution while her body underwent the slow and agonizing death from protein deficiency. Her wretched condition persisted for

more than two months. Finally a judge, who visited Ms. Pouliot in the hospital, decided to buck the law at the time and ordered her hydration terminated so as to end her suffering.³¹

It is obvious that Ms. Pouliot suffered terrible harm at the end of her life. In cases like Ms. Pouliot's, it is clear that never-competent patients like her can suffer profound harm (in the moral and legal sense) if they are subjected to certain treatments. This is because patients in these conditions are able to suffer in various ways, which in turn generates welfare interests in things like bodily integrity, psychological stability and the avoidance of unremitting suffering. Despite the fact that patients like Ms. Pouliot do not have autonomous wills, we still think they can be harmed when we fail to consider their best interests and their interests are consequently damaged. Since never-competent persons do not have rational wills, the common practice of decision making for patients like Ms. Pouliot includes considering the best interests of the patient. This gives us to reason to think that harm consists in damaging interests instead of frustrating a rational will. Since a will-based theory of harm cannot account for the harm that can be done to animals and brain-damaged humans, it would be better to consider an alternative theory of harm that focuses on interests.

Joel Feinberg's non-comparative theory defines harm as wrongful invasions of another's interests. For A to harm B, A must both damage B's interests, and in doing so, also violate B's rights (treat B wrongly). As far as I am aware, Feinberg's interest-based account of harm is the most detailed account of harm expressed in the literature to date. This analysis of harm avoids the preemption problem. It does not matter what one's prior condition was; it matters whether one's interests have been invaded unjustly by another. I

³¹ See Alicia R. Ouellette's 'Termination of Life-Support for A Never Competent Patient: The Case of Sheila Pouliot', in *Ethical Issues in Modern Medicine: Contemporary Readings in Bioethics*. 7th ed. Edited by Bonnie Steinbock, John D. Arras, and Alex John London. McGraw-Hill 2009.

am harmed by John's slug after he shoots me, even if I would have been blown up by Bill's grenade, because my welfare interest in continued life has been wrongly invaded by John's murderous actions. Furthermore, Feinberg's interest based account can explain why Ms. Pouliot was harmed at the end of her life while the will-based theory was found to be inadequate.

Seana Shiffrin notes that the interest based account of harm has the disadvantage of being unable to consider pains and frustrations of projects as harmful, as her intuition would be to include these things in the concept of harm. But for the purposes of my own project, it would not be advantageous to include mere pains and frustrations of projects in the concept of harm. Doing this would support the use of the harm principle as giving good reasons to prohibit any or all actions that cause mere pain or frustrations of projects. This would endorse prohibiting things that we do not think should be prohibited by law. Feinberg addresses this point specifically. Mere physical pains, which are part of a larger class of 'disliked but not harmful states' that include evil smells and grating noises, wounded feelings, etc., are not harmful *per se* (and therefore not subject to prohibition under the harm principle), unless these mental states adversely affect the interests of the person experiencing them.³² This, I think, is correct. Moral and legal harm should consist of more than *just* the adverse mental states in themselves because these states are harmful when they interfere with our interests in bodily health, psychological stability, and the like. In Ms. Pouliot's case, the mere physical pain that resulted from her ill-advised hospital treatment itself was not the entire story about what harmed her. Rather, it was the effects that the pain had on her overall welfare interests in bodily integrity, health, and psychological stability. Her remaining

³² Feinberg, 'Harm to Others', page 46.

welfare interests were damaged as a result of the suffering she endured, and she was therefore harmed.³³

Shiffrin's intuition that frustrations of projects should be counted as harmful is correct, but the explanation offered for why such things are harmful (due to frustrations of one's rational will) is misguided. Some cases in which my projects are frustrated would result in my being harmed. However, not *all* cases in which my projects are frustrated should be counted as harmful. If this were true, the harm principle would give us good reasons for prohibiting fair competition or preventing people from doing those acts which we normally think people have a right to perform. Harmful interferences with the projects of others are not harmful because such interferences frustrate autonomy; rather, the frustrations of the projects of others are harmful when they result from the wrongful or unjust conduct of others. Feinberg's account of harm that picks out unjust invasions of the interests of others makes the distinction between cases of frustrated projects that are harmful due to unjust conduct, and those that are not harmful and due to conduct that result from legitimate uses of autonomy.³⁴

Feinberg's interest based account that identifies unjust invasions of another's interests as a basis for harm has the following advantages: 1) it avoids the preemption problem of comparative accounts 2) it is more 'complete' and unified than Harman's list of harmful conditions, 3) it has advantages over Shiffrin's will-based account in explaining how harm can be suffered by those who do not have rational wills.

³³ Much more will be said on the topic of interests later in this chapter.

³⁴ The next sections of this chapter will be devoted to understanding these conditions of harm articulated by an interests-based theory.

Finally, in support of an interests-based theory of harm, Feinberg himself notes that, ‘It has become common, especially in legal writings, to take the object of harm always to be an *interest*...One advantage of this mode of speaking (interest-based) is that it permits us to appraise harms by distinguishing between more and less important interests, and between those interest which are, and those which are not, worthy of legal recognition and/or protection’ (Feinberg 26).³⁵ Adopting an interest based account of harm seems to not only mesh with the general assumption that the law normally protects interests, but it also allows for distinguishing between interests that are more or less relevant to legal protection.

Joel Feinberg’s account of harm: harming as interest-thwarting and wrong-doing

This next section will be devoted to establishing the conditions of harm according to my interpretation of Feinberg’s definition. More precisely, we shall determine under what conditions we can properly say that some person, Jones, has harmed another person, Smith, in the relevant moral and legal sense that will be applied throughout this piece. Borrowing heavily from Joel Feinberg’s well-developed theory of what a harm principle must say about the conditions of harm, for Jones to harm Smith, at least two conditions must conjointly be met in regards to Jones’ treatment of actions toward Smith: Condition 1- Jones has set back or thwarted or defeated Smith’s interests, and, Condition 2- In thwarting Smith’s interests, Jones also wronged Smith (i.e. Jones violated Smith’s rights.).

Interests: What does it mean to have interests?

³⁵ Feinberg, Joel. Social Philosophy. Prentice Hall. 1973.

Everyone who lives a life worth living will possess a set of interests, many of which will change over time or evolve into different interests. Furthermore, all of these interests can be furthered or defeated. In this sense, ‘interest’ will be used in the sense in which we can say that a person has a stake in something or some things. Joel Feinberg writes that, ‘One’s interests, then, taken as a miscellaneous collection, consist of all those things in which one has a stake, whereas one’s interest, or perhaps more accurately, one’s personal interests or self-interest, consists in the harmonious advancement of all of one’s interests in the plural. These interests, or perhaps more accurately, the things these interests are in, are distinguishable components of a person’s well-being; he flourishes or languishes as they flourish or languish’ (Feinberg, 1984, p. 34).

While good questions undoubtedly could be raised about the ontological status of an interest or what sentences containing the term ‘interest’ might be reducible to, I will not consider them here.³⁶ Instead, I will limit this discussion to interests as they relate to the things in which people have stakes. If I have an interest in the flourishing of some institution, z, that means that part of my well-being is dependent upon the extent to which z flourishes or suffers. My interest in the flourishing of z is defeated or set back when z deteriorates or suffers loss, and I myself suffer a loss due to z’s decline. Conversely, it can be said that my interest in the flourishing of z is furthered or fulfilled when z prospers and does well, and as a result, my well-being can be promoted. It is in my interest that z does well, and it is not in my interest that z languishes. Should it turn out that z’s financial and

³⁶ This cursory note is merely to acknowledge that a legitimate source of philosophical inquiry could follow the path of investigating the analogous meta-ethical questions about interests, just as we might ask what numbers are and whether values exist in the same way that propositions and souls might exist in a non-corporeal manner. Indeed, moral skepticism (the error theory) was in part motivated by the ‘metaphysical queerness’ which values would seem to embody if we were to posit their existence. In this work, I will not consider objections to the harm principle that make use of like-wise reasoning whereby the alleged metaphysical queerness of interests is brought to bear on the debate.

physical well-being is met with total ruin then we can say that my interests have been defeated or damaged and my well-being would thereby be adversely affected.

At least two different types of interests are relevant to an analysis of harms. First, welfare interests are the interests whose fulfillments are necessary for a basic level of continued acceptable / tolerable existence, which, in turn, is necessary so that other goals or interests of contingent or recreational kinds can be pursued. They are, according to Nicholas Rescher, the ‘basic requisites of a man’s well-being’.³⁷ Welfare interests are characterized by minimal requirements that would need to be met in order that other goals or aims can be pursued as life plans. As per Feinberg’s interpretation, ‘In this category are the interests in the continuance for a foreseeable interval of one’s life, and the interests in one’s own physical health and vigor, the integrity and normal functioning of one’s body, the absence of absorbing pain and suffering or grotesque disfigurement, minimal intellectual acuity, emotional stability... at least minimal income and financial security, a tolerable social and physical environment, and a certain amount of freedom from interference and coercion’ (Feinberg, 1984, 37). Without the fulfillment and flourishing of these welfare interests, a person cannot pursue and enjoy many other interests that hinge on the important basic needs that constitute the network of welfare interests---before Jones can even begin to form an interest in becoming an elite gymnast, he needs to have fulfilled other welfare interests, like the absence of crippling disease and the presence of sufficient nutritional nourishment. Despite the fact that some deficiencies in welfare interests might still be compensated for by strengths in other areas (a destitute artist might still be able to pursue artistic glory with her paintings), generally speaking, welfare interests represent the bare minimum of requirements

³⁷ Nicholas Rescher, ‘Welfare: The Social Issue in Philosophical Perspective’. Pittsburgh. 1972.

that allow for the pursuit of other aims or goals. In the case of the destitute artist, her welfare interest in minimal economic stability might be endangered by her low income, but to some degree, it would be fulfilled, if only by a minimal amount of food and shelter. To totally thwart her welfare interests in minimal economic stability would spell her complete and total ruin with respect to food and shelter, which would not only doom her life but also any other goals or aims she would have pursued, art related or otherwise. Only when the welfare interests are at least minimally fulfilled can the next type of interest be made possible; that is, what Feinberg calls ulterior interests.

These ulterior interests tend to be more contingent upon the particular constitution of the individual and are typically a product of his or her dreams, desires, and contextual circumstances. They are the product of our long-term goals in life; what we want to ‘make of ourselves and our lives’. According to Feinberg’s characterization, examples of what one might have an ulterior interest in may include, ‘producing good novels or works of art, solving a crucial scientific problem, achieving high political office, successfully raising a family...achieving spiritual grace’ (Feinberg, 37).

A great deal of what we would usually consider to be ‘in our interest’ would seem to fall into this category. Life’s goals, dreams, aspirations, and values would seem to be what are responsible for generating these ulterior interests that a person can possess. Ebenezer Scrooge can be said to have had an ulterior interest in making lots of money, Albert Einstein had an ulterior interest in unifying physics, and Sir Arthur Conan Doyle had an ulterior interest in writing novels (that happened to become classics in modern literature). When contrasted with welfare interests, ulterior interests can be said to be brought into existence in part due to the combination of a person’s situation, talents, desires / wants, inter-personal

relationships, point in history, etc. Welfare interests consist in obtaining a 'bare necessity' in order to maintain a tolerable existence---ulterior interests consist in obtaining life's colorful aspirations and dreams.

The topic of ulterior interests raises the question of the relation between having a desire for x and having an interest in x. Let us break down the analysis into the respective types of interests. First, we should ask about the relation between desire/want and welfare interests. Is it true that if X is in Jones' interest in the sense that X is a welfare interest of Jones, then Jones wants X or desires that X? As noted earlier in this section, welfare interests consist in the satisfaction of basic minimal requirements that secure a person's tolerable existence and that allow for the pursuit of fulfilling ulterior interests. It is certainly possible to have a welfare interest in X and not desire or want X.

Take the example of Jones, who has a welfare interest in maintaining sound physical health. Jones, however, has become depressed due to a series of unfortunate events that had occurred in his life, and he no longer values his physical health. He refrains from eating regular and nutritious meals, begins to consume large quantities of liquor on a daily basis, and stops all attempts at maintaining personal hygiene. In a word, Jones has simply 'stopped caring.' In this example, it is plausible to claim that it is in Jones' interest, whether he wants to or not, to maintain his physical well-being and vigor. Jones no longer wants or desires physical health, yet we would say that it is in his interest to maintain his physical health. We may invoke idioms in cases like these by remarking that 'He doesn't even want what's for his own good anymore'.

To take this case a step further in demonstrating that welfare interests need not depend on desire or want, we can observe situations involving very young children, the unborn, the unconscious, and the demented. A toddler has welfare interests that parents must appropriately tend to just as an elderly victim of dementia has welfare interests that caregivers must appropriately fulfill. The toddler, lacking any well-formed desire for bodily health, may act on contrary desires, like meddling with electrical wires and eating prescription medicines. Dementia patients will oftentimes lose any desire for maintaining personal hygiene, and it becomes incumbent on care-takers to see to it that this welfare interest flourishes. Persons who belong in either of these categories do not possess well-formed wants or desires that correspond with the welfare interests that they nevertheless possess in spite of their different cognitive conditions. Therefore, it is possible for some person A to lack any desire for X while it is concurrently the case that the fulfillment of X is in A's welfare interest. In regards to welfare interests, the opposite would not hold---that is, that should A have a desire for X, then X is a welfare interest for A. Since most people want more than the bare minimum to survive, everything that they happen to desire is not also a part of their welfare interests.

Next, an examination of the relation between ulterior interests and desires or wants is in order. Assume that Smith has an ulterior interest in Y; we may ask whether it must be the case that Smith has the desire for Y. Consider a case in which it is a strong desire of Smith's that he finishes writing the novel that he has been working on for the past few months. The completion of this novel does not affect Smith's welfare interests in any way, for better or for worse. Moreover, his financial situation does not heavily depend on the completion of the novel, and Smith has given considerable thought in deciding to stop writing the novel, a

decision with which he follows through. Does it make sense to say that it is in Smith's interest to finish the novel if Smith decides that he no longer desires to write his novel? I think most people would agree that it is not. Certainly, this is dependent on Smith's giving up the novel-writing as a real focal aim within the network of goals that make his life meaningful. With the novel no longer a focal aim in his life's works, any interest that he had in the novel writing disappears. In contrast, if Smith had invested much of his economic stability towards the writing of his novel, and had a well-reasoned and serious plan for accomplishing this goal, this would change his initial desire into a genuine ulterior interest. In this case, if Smith now desires to stop writing the novel, it would still be in his interest to continue.³⁸

Feinberg correctly notes that for a desire or want to give rise to a corresponding ulterior interest, it must be 'stable and durable to represent any investment of a stake' (Feinberg 43). Indeed, 'It does not seem likely that wants, even strong wants, are sufficient to create interests. John Doe, a baseball fan, may have a very powerful desire that the Dodgers win the pennant, but that alone would hardly constitute grounds for saying he has an interest in a Dodger victory. If he bets his whole fortune on the outcome, however, he will have a strong interest indeed. Richard Roe, a Dodger player, on the other hand, may have a powerful personal stake in a Dodger victory, and the pride in shared achievement, the financial bonus, tributes, invitations, etc., that will follow in its wake' (Feinberg 43). As suggested here, a want for X, as strong as it may be, does not guarantee that an interest in X

³⁸ It is worth noting that it may be possible to have an interest that I may not desire due to ignorance. If I have an interest in X, and Y is a necessary condition for X, then Y may be said to be in my interest even if I do not explicitly desire it due to ignorance. If I have an ulterior interest in building my dream house, but I am ignorant on the basics of how to use tools like hammers and nails and screwdrivers, I could be ignorant of this ulterior interest and not explicitly desire it. I suppose in this case, I may hinder my own interests without even knowing it if I make no effort to investigate what is necessary in order to build a dream house.

will automatically be the result. Some conditions that need to be met for a desire /want to bring into existence a *bona fide* corresponding interest would seem to include: 1) That the desirer, D, not only desires X but stands to suffer some loss should X be thwarted or defeated. 2) That D's desire for X be non-whimsical in nature; that is, that D wants X in a stable manner (whims are, by definition, capricious and unstable). 3) The loss that D would suffer if X comes to be defeated is a non-trivial loss.

Let us examine the first condition. In order to have an interest in something, it is necessary that a person incurs some risk associated with that interest; that the person has a stake in something and stands to lose should that interest fail to come to fruition, or once acquired, is damaged or lost. If I desire that my children's college fund be profitable so as to adequately pay for their tuition and living expenses, it is true that I also have an interest in my children's college fund being profitable and adequate because attached to this desire is the fact that I stand to lose a great deal should the college fund meet with total ruin. When my children suffer financial and physical hardship, I suffer a significant hardship as well. Accompanying the desire that the fund do well is the risk that it may do poorly or be liquidated by an economic crash, and it is in this way that it is in my interest that the college fund for my children prospers.

The second condition for a desire to give rise to an interest is that the interest-causing desire must not be a whimsical want. Instead, we properly classify interests that derive from wants as originating from a stable and consistent desire that is not subject to erratic change in the face of whatever may alter one's mind. My strong but fleeting craving for a cup of coffee upon rising on a particular morning does not constitute a genuine interest that can be thwarted or set back. Nor can my desire that my automobile's air conditioner continue to

operate in the summer-time heat and humidity create a *bona fide* ulterior interest whose defeat can be said to set back my well-being in a robust enough sense to justify calling such a loss a moral or legal grievance. Quenching my craving for coffee and staying cool during my trip to the grocery store do not constitute things that I can have a full-fledged interest in such that my very well-being can be at stake.

This point leads to the third condition that we may place on the desire/interest relationship, and that is that for something to constitute a true interest, the loss that can be at stake should not be a trivial one. It cannot be said that Jones' *interests* are set-back by having to walk around for a day with a small pebble in his shoe. Not having a pebble in one's shoe is not the sort of goal in which persons can be said to have a legitimate stake, certainly not in the same way that we can say that Smith has an interest in being able to build the dream home he had set as a life goal. The former ordeal to Jones is what we might call a mild annoyance, both short-lived and low in intensity, while the latter instantiates an interest of Smith's as it is a life goal or a focal aim.

Jones' shoe-pebble makes for an annoyance that lasts for, at most, a single day, and might cause minimal levels of discomfort only when having to walk for prolonged periods. Smith's ulterior interest in building his dream house, should it be thwarted or cut short by premature illness, would constitute a loss to Smith in a very different sense. While Smith does not 'lose' much at all from experiencing a pebble in his shoe for a day, he certainly suffers a serious loss to his life plans and overall goals if he is prevented from being able to build his dream house. Such life goals or focal aims involve a great deal of planning and investments (not only financial), and may even play a part in defining Smith as a person. It is

in these ways that *bona fide* interests must originate from risks that constitute non-trivial risks of incurring non-trivial losses.

All of these considerations are important not only for philosophical clarity, but also for the purposes that they will serve for the present project to understand what it means to harm someone by thwarting her interests by wrongful action, and ultimately, to be able to soundly apply the harm principle as the primary liberty limiting principle by which a moral and legislative inquiry can arrive at initial conclusions. We have seen that for A to harm B, A must both set back B's interests and also wrong B (treat B unjustly or violate B's rights). An account of interests has been discussed and we have seen that both welfare interests and ulterior interests represent things in which we have stakes that can be advanced and thwarted through the actions of others.

Rights violation and wronging someone: the unjust treatment of another

As stipulated at the beginning of this section, while the first component of a 'harm to another' is a thwarting or defeating of another's interest(s), the second component is the unjust treatment of another individual. A more precise formulation of this second component would be that A harms B if A violates B's rights *in the process of* setting back B's interests. While there certainly exist cases of rights violations (wronging another) that do not involve damaging the interests of others, these cases will not be the topic of this section. These cases of so-called harmless wrongdoing would not be classified as harms in the relevant sense, although there *might* be other reasons why the state may want to prohibit certain types of these cases. Nevertheless, this section will be devoted to providing an outline for what it

would mean for A to wrong B (or treat B unjustly, or violate B's rights) under the assumption that a corresponding set back to another's interests is also in place. The goal of this section will not be to enumerate every single type of wrong-doing; that would be a task far too ambitious and probably impossible. Rather, the goal here is to give an adequate account of some of the most salient conditions under which another is wronged or treated unjustly. These conditions relate directly to the harm principle as it has been developed in the literature, and their scope of application will be sufficient for the purposes of applying the harm principle to various categories of biotechnology.

To begin with, we need to recognize that since the unjust treatment of another is a necessary condition under which we can say that harm to another has occurred, we are not permitted to define the unjust treatment of others by reference to inflicting harm to another.³⁹ Feinberg correctly pointed out that Aristotle argued in *Nicomachean Ethics* (Book 5), that 'One person *wrongs* another, according to Aristotle, when he inflicts *harm* on him voluntarily...' (Feinberg 115, emphasis mine). For our purposes here, such an account of when A wrongs B cannot do, because to say that A wrongs B when A harms B and to conjointly claim that one of the conditions for when A harms B is for A to wrong B and in doing so set back B's interests is to provide an answer in the form of a theory that begs the very normative question at hand.

In order to avoid this circular reasoning in accounting for when A wrongs B, I will borrow heavily from Joel Feinberg's take on the matter, which is the following: The appropriate question is to determine not only under what conditions we can say that A

³⁹ For an extended discussion on a variation of this point, see Feinberg's 'Harm to Others: The Moral Limits to the Criminal Law', which I cite throughout this work. Pages 110-115.

wronged B, but to determine what interests the potential ‘wrong-doer’, A, has no valid claim in setting back, thwarting, or otherwise impairing.

There are several explicit conditions that Feinberg stipulates are necessary in order to say that A *wronged* B. In Chapter 3 of ‘Harm to Others’, he writes that ‘One person, A, can be said to wrong another, B, when he treats him unjustly. More precisely the injustice occurs when A’s act or omission has as its intention an adverse effect on B’s interests, or is negligent or reckless in respect to the risk of such an effect; and A’s conduct is morally indefensible; and B’s set-back interest is one that he has a right to have respected’ (Feinberg 107-108).

The first conditions of unjust treatment of another require that the harmer’s act or omission was performed either with the intention of causing adverse effects on another’s interests, or his act or omission was done out of negligence or recklessness as it concerns another’s interests. A motorist who accidentally hits another car only after swerving to avoid killing a pedestrian who had walked into the driver’s path without warning cannot be said to wrong the other motorist in the relevant sense. The motorist did not intend to cause damage to the other motorist’s interests, and the motorist who swerved did so not out of negligence or recklessness since he was not distracted or impaired and was following the rules of the road. However, had the motorist been negligent in the minimal upkeep of his cars brakes, or in knowingly driving while intoxicated with alcohol, or in blatantly exceeding the speed limit of the road, we can then argue that he *unjustly* damaged the interests of the other motorist, and we might scold him by saying that ‘he should have known better’. This, I take it, is why we blame those who cause auto accidents while texting, and punish those who do so, and why

we do not punish nor blame motorists caught in the first unfortunate example of a truly unavoidable accident.

A's wrongful treatment of another requires that A's act or omission was morally indefensible. According to Feinberg, A wrongs B when A impairs or sets back B's interests and A had no *justification or excuse* for setting back B's interest. An analysis of justification and excuse will need to acknowledge that in order for Jack to legitimately claim the right to interfere with Jill's liberty to pursue her own interests or not to have her non-wicked interests invaded, Jack must offer either good reasons for why it is right for him to do so, or an excuse that explains why his acts that interfere with Jill's interests would have been wrong under normal circumstances, but are not blameworthy in the ones relevant to the particular situation as it occurred.

Suppose that Jane has an interest in being able to go jogging on the sidewalk of her neighborhood as she pleases and without physical interference. Moreover, Jane has a welfare interest in not meeting with assault at the hands of strangers. Suppose now that Jack, a passer-by, pushes Jane to the ground as she jogs past Jack. If the explanation for Jack pushing Jane to the ground is that he was in the throes of an epileptic fit at the point in time and place where the unfortunate Jane had been jogging, then Jack's invasion of Jane's interests can be *excused*. To excuse an act, as we would do in the case of Jack's fit of epilepsy that caused him to knock Jill to the ground during her jog through the neighborhood, would be to withhold the assignment of moral blame and legal punishment onto the person who set back or thwarted the interests of the other person(s). Invasions of the interests of others that are properly described as entirely the result of non-negligent accidents, involuntary seizures and shaking fits, violent sneezes and coughs, temporary bouts of

madness, being poisoned by mind altering substances at the hands of a malicious enemy, sleep-walking, and perhaps extreme cases of duress can be included in the category of those which can be excused. The act-types themselves are still looked upon with disapproval, but the lack of malicious intentions on the part of the agent allow us to excuse the agent from incurring blame and culpability.

If, on the other hand, Jack's reason for pushing Jane to the ground was to prevent Jane from being run over by a truck that had swerved onto the sidewalk (unbeknownst to Jane at the time), then Jack's reason for pushing Jane to the ground (that is, for invading Jane's welfare interest in not being assaulted and her ulterior interest in participating in fitness orientated recreation) is *justified*. We can categorize Jack's tokening of the act-type of 'pushing one out of harm's way' as one that we might encourage. This is one example of what it would mean to justify a certain act-type. Similarly, we might encourage (and therefore justify) act-types that involve something as serious as taking the life of another when those act-types involve last-resort means of defending the life or lives of innocent persons. To justify an act-type in this way typically involves showing that performing that act in those circumstances was either morally required or permitted.

It is crucial to recognize that according to Feinberg's understanding of harm as wrongdoing, indefensible conduct that damages another's interest is conduct that is without adequate justification or excuse. Someone who damages another's interest without adequate justification or excuse does so in a morally indefensible manner, and can be said to be responsible for the victim's harm. In Feinberg's own words, 'These are the only people of whom it can be said that the harm is "their fault", the only persons who are "to blame for it", the only persons without exculpating "defense"'. Excused or justified wrongdoing is not

wrongdoing at all, and without wrongdoing there is no “harming”, however severe the harm that might have resulted.’⁴⁰ To provide a justification or excuse as a defense in the case of damaging another’s interests just is to provide reasons *why* such conduct was not wrongful.

To continue our discussion on justification, there is another sense in which someone can be ‘justified’ in their actions which may nonetheless damage or thwart another’s interests. In addition to the morally defensible conduct of legitimate acts of self-defense and pushing someone out of the path of a train, it is also justifiable to act in ways in which one already has a presumed right. Generally speaking, our fundamental welfare interests in personal autonomy and freedom of choice can sometimes come into conflict with other people’s pursuit of interests. While my interest in acquiring personal wealth might be thwarted by your refusal to give me all your money, it is not unjustly thwarted by you because you have basic welfare interests in personal autonomy and property, which would allow you to decline my requests without being charged with violating any rights of mine. Even if my desire for more wealth rises to the level of being an ulterior interest of mine within my own network of interests, just because such a thing is in my own interest does not entail that I am treated unjustly when you choose not to give me any of your own wealth. Your choice of whether or not to give me your own property is protected from my claims against you by the protection of everyone’s welfare interests in personal freedom and the right to property. Freedom of choice, generally understood as being a part of our welfare interests, allows us to make an assortment of choices. The possible consequences of these choices may very well end up thwarting or damaging other people’s interests. But in these cases, we do not say that practicing our freedom to choose violates other’s rights or

⁴⁰ Feinberg, ‘Harm to Others’, p. 109.

indefensibly thwarts another's interests, as long as we are adhering to the basic notion of individual autonomy that is protected by the recognition that it is in *everyone's* welfare interests to have such individual liberty.

Here we can see a general difference between welfare interests and ulterior interests and how they might be related to rights. It would seem that rights generated by welfare interests put limitations on the claims that one can make against others in pursuing one's ulterior interests. I am free to pursue my own ulterior interests (a right afforded me by the protection of my welfare interests in personal autonomy) so long as I do not unjustly invade the interests of others (which include an interest in freedom of choice). As we have seen, welfare interests are not based on desires. Rather, everyone is presumed to have general welfare interests in basic things like life, bodily health and freedom of choice, regardless of whether there may be some who do not desire such things. Respecting the welfare interests of others would therefore typically consist of not unjustly invading their welfare interests (as in not unjustly killing or assaulting, not kidnapping and imprisoning).⁴¹

⁴¹ There will be hard cases when trying to apply the harm principle. For example, does an employer *harm* an employee when he fires an employee who happens to have no other options for gainful employment? It is true that the employee would have his welfare interests damaged by being dismissed, but the question of whether the employee is also treated unjustly by his employer is, in my view, what needs to be answered. This is a difficulty that is not necessarily inherent in the account of harm advocated here, but rather, it is a difficulty that is specific to understanding and clarifying the details of various situations. If, for example, the employee is fired because he was caught stealing money from the employer's company, then the employee is not wrongfully terminated from his job, even though such a job might have been the employee's last step away from total financial ruin. An employer, in such a situation, would (properly) not be subject to legal sanction for dismissing employees under these types of circumstances. Similarly, a homeowner who uses lethal force against a violent home invader damages the invader's welfare interests severely, but she does not participate in actions that are subject to legal sanction as long as her use of lethal force is not wrongful. That is to say, as long as the details of the situation correspond with a true case of a home invasion (and not merely a quarrel between neighbors, or a friend who merely overstayed his visit), we would not prohibit the actions of the homeowner even though there was a serious set-back to the welfare interests of the invader. The difficulty in deciding on whether the homeowner and employer treat unjustly (and therefore harm) their corresponding counterparts is not a difficulty with this account of harm; rather, it is an inherent difficulty in determining and judging the facts of particular cases. We might say the burglar and the employee are harmed in the causal sense of the term, but not in the moral and legal sense being articulated here.

On the other hand, since ulterior interests generally arise from desires that form focal aims in one's life, it is in the pursuit of ulterior interests where one must also continually respect (and not interfere with) the freedom of choice and the welfare interests of others. It is therefore sometimes perfectly defensible, and not harmful, to practice one's freedom of choice in those instances where doing so may still thwart the ulterior interests of others. This is because anyone's welfare interest in personal autonomy must not, *ceteris paribus*, be infringed by whatever desire or ulterior interest another might happen to pursue. Unless there is some additional 'special' right that exists for Smith to pursue an ulterior interest by infringing on the freedom of choice of Roe (perhaps a right to have a debt paid or a service rendered), Smith cannot complain that Roe violates his rights or treats him unjustly when Roe declines to help Smith fulfill such interests. It is our general protection of Roe's (and everyone's) welfare interest in the freedom of choice that allows him to defensibly decline to help fulfill Smith's ulterior interests.

A concrete example of this can be found in cases of unrequited love. Suppose Jones falls deeply in love with Jane and wants her to love him in return. Would Jane's reciprocation of love for Jones potentially become one of Jones' interests? Would we then conclude that Jones is wronged and therefore harmed by Jane when she does not return affection for Jones? Since rights entail valid claims made against others, we must ask whether Jones can make a valid claim against Jane that she decides to love him back. Jane has plenty of justifications that would allow her to decline Jones' proposals, and therefore, would not be *indefensibly* thwarting Jones' interests. Jane can claim that she has a right to practice her freedom of choice with respect to Jones' requests because she does not owe Jones her affection or love. Jane clearly has a right (as does Jones) to personal autonomy,

while Jones cannot be said to have a right to Jane's hand in marriage or even her affection, since Jones is not owed any such thing from Jane.

Jones cannot claim a right against Jane that she reciprocate her affection for him in the same way that Judith Jarvis Thomson's ailing violinist whose kidneys had been hooked up to a stranger (against her will) has no right against the stranger for the use of her kidneys even if it is necessary for survival.⁴² The violinist's right to life (and welfare interest in continued life and bodily health) does not entail the right to the use of a stranger's body, and Jones' interests (if there are any in such things) in Jane's affection do not entail the right to Jane's affection and commitment to a relationship with Jones. The violinist's right to bodily health and continued life *does* entail that the stranger refrain from slitting his throat or running him over with a car or poisoning his food, but it does not imply that the violinist can validly claim a right to the use of the stranger's kidneys, or body, or bank account for his continued survival and health. Jones' general interests in a reasonably happy life free from oppressive misery would entail that Jane not intentionally cripple Jones by assault, and that she not harass him to the point of madness, but it cannot give Jones the right against Jane that she reciprocate affection and love, or provide him the use of her bank account, her body, or her property if Jones had happened to develop strange 'interests' in such things.⁴³

With respect to how we think about rights in general, Feinberg writes that, 'Rights are not mere gifts or favors, motivated by love or pity, for which gratitude is the sole fitting

⁴² See 'A Defense of Abortion', Judith Jarvis Thomson. *Philosophy & Public Affairs*, Vol. 1, no. 1 (Fall 1971)

⁴³ This discussion brings to light a related question of when does A harm B by omission (failing to act), when B is owed some action performed by A. Without getting overly involved in a discussion on omissions (which would be distracting and unnecessary at this point), we may stipulate that those cases of harmful omissions would include cases in which A and B have some special relationship such that A 'owes' B some action performed on A's part. Another way to put this would be that B has a right to A's action, as in cases where B is a dependent of A (parent to child), A has special fiduciary duties to B (doctor-patient relationships), or A has some general duty to the public at large (police-society relationship).

response. A right is something a man can *stand* on, something that can be demanded or insisted upon without embarrassment or shame. When that to which one has a right is not forthcoming, the appropriate reaction is indignation; when it is duly given there is no reason for gratitude, since it is simply one's own or one's due that one received'.⁴⁴ This understanding of rights is in accord with the sentiment expressed by Thomson with respect to the violinist analogy, whereby it would be very nice of the kidnapped victim in the hospital to allow the violinist the use of her kidneys, as such a gesture would be a welcomed 'gift'.⁴⁵ However, this is to be sharply distinguished from saying that the violinist has a right against the kidnapped host to the use of the host's kidneys. While it would be a very nice thing for Jones if Jane actually did reciprocate Jones' romantic feelings, we certainly would not think that Jane would fail to give Jones 'his due' should she choose to decline his proposal. Any interest in Jane's love or hand in marriage that Jones may try to claim is not *indefensibly* thwarted, since Jane does not owe any such thing to Jones in the first place. She is therefore perfectly justified in declining Jones' offer without running the risk of harming Jones by way of wrongdoing.

Indeed, one reason why we think that the welfare interests are candidates for protection '*par excellence*' is the need to protect everybody's interests in freedom of choice and autonomy in general. Without admitting that welfare interests are solid grounds for valid claims against others, our freedom to choose with regards to our body, our property, our time, and our resources would be constantly threatened by strangers who would attempt to make claims against the use of our bodies, our lives, our health, our property, and our time, in

⁴⁴ See Joel Feinberg, 'Social Philosophy'. Prentice Hall, 1973. Page 58-59.

⁴⁵ Judith Jarvis Thomson, 'A Defense of Abortion'. Philosophy and Public Affairs. Vol.1, num. 1, 1971.

order to further or advance their own interests. Trying to separate those sorts of freedoms that ought to be protected from those that cannot be protected is a more difficult task. Certainly there are obvious candidates. My general welfare interests in freedom of choice, bodily autonomy, and property can be said to be protected from circumstances that would require significant sacrifices and risks to these general interests. A drowning stranger cannot have a right against me to rescue him if I am a terrible swimmer, a destitute stranger cannot be said to have a right to take every penny in my bank account if that is what is necessary for him to lead a decent life, and a stranger who will die unless I offer up my kidney cannot claim a right against me when I decide not to volunteer my organ for transplantation. To require people to prevent such ills from befalling anyone whenever it is possible to do so would be to place such unbearable burdens on citizens everyday that their welfare interests would be invaded, damaged, and doomed by the state and those who require such aid. The same could be said regarding Jane and Jones. To legally or morally require that Jane reciprocate Jones' romantic feelings, and then generalize this outcome to all such situations of unrequited love, would be to unfairly infringe on Jane's right to choose who she spends her life with (and damage and invade her welfare interests in bodily autonomy) and to risk and damage everyone else's freedom of choice regarding such life altering decisions.

There may be situations in which someone might make legitimate rights claims against another, the violation of which would result in being harmed by omissions or failures to act in certain ways. A driver who runs over a pedestrian in the road by continuing on the straight path his vehicle was taking because he simply does not care harms (wrongs) the pedestrian. His act of driving in such a state was *reckless* on his part. The pedestrian, and everyone, has a right against everyone else not to be the victim of reckless behavior. As

Feinberg stipulated, reckless behavior is an example of wrongful treatment of others, and is correctly thought of as morally indefensible. Recklessness is a sort of ‘willful blindness’ to whatever the contingent circumstances could be that would result in the actor’s actions damaging or invading the interests of others. Those who act recklessly do not care whether their actions damage or thwart the interests of others, and any reasonably construed harm principle would certainly support restricting one’s ‘freedom’ to act (and continue to act) in a reckless manner.

How far the harm principle should extend in prohibiting certain reckless behaviors will depend on numerous considerations. For instance, while we may think that people who are ‘reckless’ with other people’s emotions in romantic relationships are immoral people, we would be reluctant to think that such bad people should be also punished by the law. There are several reasons why this is true. We can doubt if cases of being ‘reckless’ with others’ feelings in personal relationships actually involve the sort of basic interests that the state has an interest in protecting for citizens. While hurt feelings in personal relationships can be unpleasant and lingering, these are not the sort of interests that we would want the state to be involved in protecting, since they do not, on the whole, involve the welfare interests in life, bodily health, property, and freedom of choice, nor even focal aims in life that rise to ulterior interests. If this is correct, then cases of such ‘recklessness’ would count as harmless wrongdoings, whereby wrongful treatment of another has occurred, but *bona fide* interests (the sort of interests that the state should be in the business of protecting) were not damaged.

In those exceptional cases where ‘recklessness’ with another’s feelings happens to trigger debilitating depression which indirectly harms the welfare interests of someone, it would still be against the state’s goals to make such conduct illegal on account of a few

individuals' special vulnerabilities. We think the state has an interest in protecting basic and important welfare interests that its citizens possess, and that everyone's right to choose how they want to live their romantic lives would outweigh any interest the state might have in preventing the damage done by the heartbreak of unrequited love. Feinberg draws our attention to the 1888 Massachusetts case of *Rogers vs. Elliot*, in which the court found that Mr. Rogers' epileptic fits caused by the ringing of the town church bells did not warrant legal sanction against bell-ringing in the town (Feinberg 193). Feinberg states that, 'Persons with rare vulnerabilities should be protected by criminal statutes against deliberate and malicious attempts to exploit their special weaknesses, but they cannot always demand that other people's vigorous but normally harmless activities be suspended by government power for their protection' (Feinberg 192). If we assume that although the 'victims' of reckless romantics normally suffer hurt feelings but not invasions to the welfare or ulterior interests properly understood, then this line of reasoning would apply to those rare individuals who might suffer severe bouts of depression due to such 'reckless' persons. While their particular circumstances might constitute harmed conditions, there would be reasons against making laws in accordance to such unusual circumstances. Later in this chapter, we will discuss some reasons why instances of harm might still not warrant certain legal sanctions, as pragmatic considerations need to be balanced with such sanctions.

It would not infringe on anyone's welfare interests to prohibit some reckless behaviors. The absence of such prohibitions could endanger everyone around us. But to require that romantic feelings be reciprocated would clearly intolerably breach the rights of

Jane and anyone else who is pursued by an admirer.⁴⁶ A society that values freedom and individual responsibility would grant that pedestrians are owed the careful driving practices of all drivers, while Jones cannot be owed the reciprocated feelings of Jane, since she does not owe such treatment toward Jones because such obligations would incalculably harm everyone's welfare interest in a general freedom of choice.

There exist other considerations that must be weighed when determining which reckless behaviors should be prohibited and which cannot or should not be prohibited by the law. One must weigh the pragmatic costs of proscribing, by law, recklessness in our personal relationships, against whatever harm might be prevented by passing such laws. While such laws might prevent some instances of broken hearts, considerations regarding the intrusive measures that would need to be implemented in order to detect law breakers and enforce such laws would obviously be reason enough to resist the passage of such laws. For example, overly intrusive government surveillance in citizens' residences, government access to citizens' email and telephone records, and the like would be unacceptable intrusions on everyone's liberty. Passing such laws would be a bad idea from a practical standpoint, as not only would enforcement be difficult and expensive, but would have far reaching 'chilling effects' on everyone's (indeed, society's) general welfare interest in individual liberty.⁴⁷ Such practical considerations are salient not only with respect to laws on recklessness, but

⁴⁶ Certainly any claim to a welfare interest in acting recklessly would run very close to, if not into, Feinberg's (and my) dismissal of any 'wicked, morbid, or sick' interests for which someone might attempt to claim protection by the state. At this point, our good moral sense, possessed by any normal person of reasonable convictions, would recognize that any such 'interest' is indefensible in itself.

⁴⁷ The phrase 'chilling effects' is also used in the debate regarding free speech. John Arthur, in his piece 'Sticks and Stones' in *Ethics and Practice* ed. Hugh LaFollette. 3rd ed. Blackwell Philosophy Anthologies, points out that the Supreme Court of the United States has traditionally be more reluctant to limit the content of speech (rather than time and place) due, in part, to the worry over such limitations having a chilling effect on other speech. Such an effect refers to a general apprehension to freely express unpopular beliefs due to the fear of being censored or punished.

must be weighed in all deliberations on social policy guided by the harm principle (and all social policy making in general).

Getting into the specifics of every instance or type of situation in which A omits to act in a certain manner or continues to act in a manner such that B's interests are damaged or thwarted would be unnecessary at this point in the theoretical setting. Various material facts in a particular case can and should bear on how one answers such inquiries. Material facts that need to be brought to bear would include the type of relationship between A and B in order to determine whether A stands in a relation to B that would warrant B's claim against A. Arguments that make use of these details will inform our use of the harm principle in various contexts. Examples of such contexts include parents who harm their children by certain omissions in virtue of their relationship to their children, harm that occurs as a result of one's failure to repay a debt, and a physician who harms her patient by failing to inform her patient (or actively concealing information) about the alternative treatment options for a life threatening illness. Many of these circumstances, under which a duty and a claim right can be posited (and as such, harmful omissions can be made), involve a voluntary decision on one party's part to assume a set of responsibilities with respect to the interests of another party. Other situations might involve cases in which disaster can be prevented at zero risk to a passerby or stranger. While it would be an unbearable invasion of everyone's welfare interest in freedom of choice to require that one reciprocate romantic feelings of others, we recognize that it might not be an unbearable burden to minimally require that I notify my hospitalized relative's caretakers that her respirator has malfunctioned in order to prevent her premature death (even if I am not especially fond of my relative). This is especially true in

cases where doing so would entail no risk or sacrifice and a case can be made for my having obligations to infirm family members.

While these context-specific factors will play integral roles within an application of the harm principle to difficult applied cases, any attempt to devise a harm principle that already has the ‘answers’ to all of these questions built-in would turn a principle that is supposed to be broad and general into an overly specific and complex one. While the material facts play an important role in determining whether harm occurs in a given context, balancing the welfare interests in freedom of choice (broadly construed) and bodily autonomy with the interests of a society is always something that legislators and ethicists utilizing the harm principle must consider.

Notice that one can subscribe to this outline on rights while also allowing for duties to give to charity and for encouraging general virtues of generosity and benevolence. Having a duty to give to charity does not entail having a duty to any stranger who might happen to need my services, property, body, or time to forfeit these things. Furthermore, we can then say that Jane is free to choose whether or not to reciprocate Jones’ affections because Jones does not have a right to Jane’s affection and romantic love any more than he would have a right to the use of her bank account or her home or her property merely in virtue of there being a corresponding interest held by Jones. Jones can claim a right against Jane that she not interfere in or invade his welfare interests via theft, assault or fraud, but he cannot claim a right against Jane that she offer her own property, services, or herself in order to advance or further Jones’ interests, since these interests are the ones that we want to protect for everyone. Any harmful omissions would require that it be shown that Jones is *owed by Jane*

the use of her property or services either through binding contracts or fiduciary duties, by means of a special relationship (parent-to-child) or due to previously binding agreements.⁴⁸

So far, I have been working under the assumption that individuals can develop ulterior interests in things like love, the use of another's property, or the use of another's body. Even if we grant that some people could develop such focal aims in life in the same way that one can develop an ulterior interest in building a dream house or making a scientific discovery, it is not the case that the law should explicitly be used to protect every ulterior interest that anyone could possess. There are, of course, *some* ulterior interests that can be directly damaged by wrongful conduct. Feinberg notes that simple theft is made a crime so as to protect our ulterior interests in certain possessions that do not directly constitute our welfare interests.⁴⁹ But still, there is a general welfare interest in secure personal property, so even if certain possessions were not the ingredients of an ulterior interest network, theft of such possessions would still constitute damage to the general welfare interest in personal property. In such instances, not only is the rich person's ulterior interest in money thwarted when a thief steals a dollar, but the rich person's general welfare interest in secure property is also damaged. In this respect, Feinberg admits that ulterior interests (which would consist of our highest aspirations) are generally protected indirectly by the law which protects our

⁴⁸ Of course, philosophers with a utilitarian bent might completely reject my account of rights and obligations here. Peter Singer, for instance, in 'Famine, Affluence, and Morality', thinks that if someone is in a position to prevent something bad from happening and can do so without causing or incurring more harm than the harm that is being prevented, then one has an obligation to do so. Along these lines, it is possible that Jones has a right to Jane's bank account, her companionship, or even the use of her body, if Jane's allowing for the use of these things does not result in a 'worse evil' compared with the evil or 'harm' that Jones would suffer without these things. Under such an analysis, Jones may be wronged and harmed by Jane's omissions when such omissions result in more suffering or evil, on balance, than acting. While I recognize that this is another possible way of thinking about rights, obligations, and drawing the line between charity and duty, I take this to be a somewhat radical viewpoint wedded to a debatable moral theory. As such, I will not attempt to conclusively argue against such a position at the risk of engaging in a debate that is beyond the scope of this thesis.

⁴⁹ See Feinberg, 'Harm to Others', page 112.

welfare interests in health, economic sufficiency, freedom of choice, and the like. He writes, 'If my highest interest is in pecuniary accumulation as such, or in such uses of wealth as the purchase of a yacht or dream house, the law can protect that interest indirectly by protecting me from burglary and fraud, but it cannot protect me from bad investment advice, personal imprudence, the unpredictable dependencies of others, the lack of personal diligence or ingenuity, and so on. If my boss reduces my salary as a consequence of his low assessment of my work, that act may set back one of my ulterior interests; but the law cannot protect me in this instance from my boss without invading *his* liberty (a vital welfare interest) intolerably' (Feinberg 62). Accordingly, any interest that Jones might develop over time in winning the sole romantic affection of Jane cannot be an interest that can be directly protected by the law without intolerably violating Jane's welfare interest in her liberty.

But even if we might try to stretch our notions of plausibility and claim that Jones has a welfare interest in Jane's affection (since without it his health would decline), we would demand that Jones produce conclusive reasons for why he has a right against Jane that she commit her affections toward him (and thus limit her own liberty in related ways). Such a requirement would be made since what Jones asks of Jane necessarily involves demands with regard to her own welfare interests in freedom of choice and general autonomy about her own life plans. In the absence of any specified obligation that Jane might have toward Jones on this matter, she would be free to simply refrain from reciprocating Jones' affections. Otherwise, to place such a burden on Jane and anyone else in like circumstances would be to intolerably infringe on *her and their* welfare interests in freedom and autonomy, which are paradigm cases of the types of basic welfare interests that the law is designed to protect.

Thus far, our notion of indefensibility includes those acts that are inexcusable or unjustified. From our previous definition, inexcusable acts are those performed by an individual to which moral blame can be assigned. Unjustified acts are not ones that we might encourage (like cases of self-defense). Unjustified acts also do not include the results of people exercising their personal autonomy in ways in which they already have a right, such as exercising one's freedom to choose.

The idea of moral legitimacy

Given what has been said about unjust and wrongful conduct, a natural question about what is meant by indefensible and wrongful conduct can be raised. If the harm principle is to make indefensible conduct harmful, what theory of moral indefensibility should we adopt? It might be suggested that without rigorous accounts of these important conditions of the harm principle at the theoretical level, we would not be able to even determine the morally salient differences between winning an auction by merely outbidding my opponent and 'winning' the auction by shooting my opponent dead.

There are two responses to this concern. The first reply is a general position held by Feinberg, on how we should utilize the concept of *moral legitimacy* within the context of the harm principle. The second response is my position on how the harm principle ought to be utilized as an uncontroversial liberty limiting principle for guidance on applied issues in enhancement.

On a procedural note, Feinberg's own appeal to concepts of moral legitimacy, which entail how we should think about fairness and indefensibility, does not rely on explicit

theories of justice, right and wrong, or good and evil. He writes that, ‘I have no intention of undertaking a deep philosophical analysis of the basic idea of moral legitimacy. That would be difficult, distracting, and because of that notion’s intuitive familiarity, quite unnecessary. The idea of legitimacy is not an invention of arcane philosophy. It is part of the conceptual equipment of every man and woman “on the street”.’ I take this to mean that what is required for the harm principle to be generally understood and useful is a familiar and intuitive notion of what is fair and what is unfair, what conduct is defensible and what conduct is indefensible or illegitimate. While we may recognize that there can be much debate about what theoretical frameworks can ground our general notions of fairness and defensibility, a general understanding of harm and applications of the harm principle need not engage in these debates in order to still have significant merit and utility. Indeed, Feinberg states that the harm principle is not meant to rely on ‘...a semblance of a complete moral system...’, and that the harm principle should not be understood as relying on any theory that ‘...is utilitarian, Kantian, Rawlsian, or whatever.’ Rather, using the harm principle allows us to appeal to ‘...all kinds of reasons normally produced in practical discourse, from efficiency and utility to fairness, coherence, and human rights’. He ends by stating that ‘...I make no effort to derive some of these reasons from the others, or to rank them in terms of their degree of basicness...I do not believe that such an approach is precluded, but only that it is unnecessary. Progress on the penultimate questions need not wait for solutions to the ultimate ones’.⁵⁰

This response to the concern about our conception of moral legitimacy is that a general conception of fairness and legitimacy is all that is needed for the harm principle to be

⁵⁰ Feinberg, *Harm to Others*, pp 17-18.

understood, at least at the theoretical level. We can accept some basic and reasonable assumptions about these moral concepts and still understand the harm principle and its associated constraints. In order to formulate a cogent harm principle to apply to concrete moral and social issues in the enhancement debates, we do not need to first solve all of the problems in moral theory that would ground our ordinary ideas about fairness and indefensible conduct. For our present purposes, articulating a moral theory that would explain why it is morally legitimate to win an auction by merely outbidding my opponent and morally indefensibly (and wrong) to 'win' by shooting my opponent is unnecessary and irrelevant. Solving the prior philosophical problems is not essential to providing insight to other philosophical problems, the analysis of which might need to assume or put aside 'answers' at the more basic levels. An understanding of the harm principle (and applications of it to cases) may no more depend on a complete theoretical understanding of moral legitimacy and fairness than the legitimacy of scientific inquiry would wholly depend on a solution to the problem of induction, or an answer to epistemological skepticism about the physical world. One might try to insist that we must first establish with certainty that there is a physical reality if we are to ascribe truth to statements made in biology and physics, just as one might try to insist that we provide a complete moral theory that grounds our understanding of fairness before we can understand and apply the harm principle. However, I think that an adequate reply to these demands would be that these basic and theoretical questions are not really relevant or vital to the analysis that is to be done at the levels of application. They are up for debate in a different type of discussion (discussions we may have in courses in metaphysics, epistemology, and metaethics), but solutions to these worries

are not needed for us to have informative and meaningful analyses at the applied levels of scientific practice and social and applied ethics.

I agree with Feinberg on his response in cautioning against placing too much effort in defining moral legitimacy. My position on this matter goes further; I believe that complete answers to these questions may be problematic. Developing the harm principle so that our notions of fairness and moral legitimacy (and, subsequently, ideas about wrongful conduct, indefensible conduct, and rights violations) must be grounded in complete thorough-going moral theories would actually prove detrimental to the harm principle both at the theoretical level and also during the application of the harm principle to concrete cases.

Requiring the development of a grounding moral theory to be attached to the harm principle would undo the very intuitive appeal that the harm principle has in the eyes of many philosophers and legislators. If we were to ground the harm principle's condition of moral legitimacy (indefensibility, fairness, etc.) in a specific and detailed moral theory, then the overall principle would be much more controversial. As I pointed out in Chapter One, agreement about the primacy or legitimacy of Kantian, Utilitarian, Rawlsian, or Virtue based moral theories is anything but universal. Any one of these moral theories, if attached to the harm principle so as to justify our conceptions of fairness and justice, would render the resulting liberty limiting principle divisive and open to wide disagreement.

Moreover, given what a general and intuitive conception of moral legitimacy would entail for notions of fairness, moral indefensibility, and rights violations, we can apply the harm principle to concrete moral and social issues in enhancement and engage in debate and analysis at the applied level (where most of the disagreement and debate belongs). Analysis

at the applied level would be within the specific context of a particular issue in enhancement, and our general understanding of indefensibility and fairness can then inform us about what to think within a particular context. The bulk of the controversy would not concern what moral theory we should attach to the harm principle at the theoretical level; rather, most of the analysis and debate would revolve around deciding which specific types of conduct or thwarted interests strike us as either wrongful or unfair or indefensible *within a particular context* in applied philosophy. This not only allows the ethicist and legislator to take into full consideration the details and circumstances relevant to applied cases, but it also allows for some flexibility. This flexibility permits the ethicist and legislator to draw from many different intuitive notions and lines of reasoning about fairness and rights violations, without being strictly bound by any particular contentious moral theory. A purely Kantian understanding of moral concepts might leave out considerations of utility or the importance of balancing competing interests, which reflect values that cannot be ignored. A purely Utilitarian understanding of moral concepts may limit us from taking seriously considerations of individual rights or familial obligations, which are also important values. Not only would this move make the harm principle divisive at the theoretical level, but it would render the applications of the harm principle at best inflexible and limited, and at worst, needlessly dogmatic and myopic.

Finally, we should recognize that there are some interests that do not warrant *any* protection from the harm principle. Looking to Feinberg's stance on the matter, we find that, 'Certain kinds of morally disreputable interests can be ruled out, straightaway, as possible grounds for valid moral claims. If there are any interests in causing pain and suffering for their own sakes, for example, such interests cannot be the grounds of claims against others.

Cruel and sadistic interests, morbid interests, wicked and sick interests, if there are such things, can be peremptorily rule out of court, and put aside. No one has a moral right to the protection of such “interests”, if, indeed, such things exist at all’ (Feinberg 111-112).

As per the previous discussion on interests and unjust conduct, any possible ‘interest’ that someone might have in routinely beating his spouse or lighting stray animals aflame cannot be the legitimate grounds for moral and legal protection. Moreover, all of the remaining non-wicked interests that people may have are sufficient grounds for protection from invasion or set-backs by others when those invasions or set-backs are unjustified or inexcusable. After establishing that sick and wicked interests cannot be the sort of interests for which individuals can claim protection against interference, Feinberg writes that ‘Then it is a quite simple move to declare that *any interest at all* (apart from the sick and wicked ones) is the basis of a valid claim against others for their respect and noninterference. Then it would follow that *any* indefensible invasion of another’s interest (excepting of course the sick and wicked ones) is a wrong committed against him as well as a harm’(Feinberg 112). In order for a damaged or invaded non-wicked interest to count as a harmed interest, it must still be established that such damage or invasion was the result of the indefensible conduct of another. As we saw with our example of unrequited love, the harm principle must also contain the provision that set-backs to others’ interests may be legitimate in those cases where the agent whose actions would be under scrutiny was acting in ways to which he or she already had a right.

A working theory of wrongful action now presents itself as: A treats B wrongly when

- 1) A acts toward B in a manner with the intention of damaging B’s non-wicked interests, or from reckless or negligent motives.
- 2) A’s set-back to B’s interest in X is indefensible,

which means that it is either a) unjustified or b) inexcusable or c) generally *not* a case in which A has a right to act in the way that he/she did (so as to exclude Jane from harming Jones by not reciprocating Jones' feelings, and similar cases). Also, condition one needs to be understood as including, in addition to 'set-back', words like 'thwart', 'invade', 'interfere', 'damage', 'threaten', and 'doom'. All of these terms, which may not be exhaustive in the ways in which interests can be wrongfully treated, denote the different ways (some subtle, others more obvious) that a person can act so as to negatively affect the interests of another. For example, John sets back Julie's interest in obtaining an "A" grade in Intro to Philosophy when he tears pages out of Julie's philosophy text book. Julie's progress in the class, which was flourishing prior to John's ill-willed actions, suffered a 'set-back' when she missed out on important readings and scored a "B" grade on her mid-term examination. The 'forward momentum' that her interests once embodied up until her impaired study sessions were 'put back a few steps' because of John's clandestine act of sabotage. The wrongfulness of John setting back Julie's interests could be understood as a product of a binding agreement among all students of the class to follow basic rules when pursuing their interests in competing against one another. Rules of conduct pertaining to the class would normally include respecting the property and work of other students, refraining from committing plagiarism, and the like. John's act would therefore be wrongful toward Julie. Another example would be Jane's interest in the well-being of her toddler's health while Roger baby-sits for her while she is at work. If Roger negligently leaves Jane's toddler unattended in the bathtub during bath-time so as to partake in a session of playing video games, Roger wrongs Jane when he violates the terms of the mutual agreement, an agreement which produced a moral obligation where one previously had not existed.

In addition to these ways that someone's interests may be negatively affected by the wrongful actions of another, one's interests can also be said to be doomed. Joel Feinberg convincingly states that 'Once a person invests enough in a given goal to make it one of his ulterior interests, while unknown to him, another party has destroyed (or will destroy) the conditions necessary for its fulfillment, then from that moment on, his hopes and labors are in vain' (54). If a pregnant woman is run over on the street by a drunken motorist and her baby is born with significant birth defects that cripple him for the rest of his life, we can rightly say that many welfare interests of the baby's were doomed by the impaired driver and his actions. The baby's welfare interests were destined to despair from the very beginning by the motorist's reckless decisions. Moreover, the dooming of those interests can said to be a wrongful act (an act that unjustly treated the unborn baby), and therefore an instance of harm, because the gross negligence practiced by the motorist was unjustified and inexcusable in the context of the so-called 'accident' that caused the harm to the baby.

To summarize: 'harm to others', in the philosophically technical sense, has been characterized here as a 'wrongful set-back to another's interests'. Joel Feinberg's analysis has proven to be essential in understanding what interests are, and how they can be damaged by the actions of another. Moreover, Feinberg's theory has provided insight about the conditions under which we can say that some person has unjustly treated, or wronged, another person. A harms B when A unjustly (wrongfully) sets back B's interests. The interests of B's could have been either welfare interests or ulterior interests (although usually the law protects ulterior interests implicitly by protecting, explicitly, welfare interests), and A's actions that set back B's interests were neither justified, excusable, nor did A have a right

to be doing the actions that damaged B's interests. In regards to this last point, we would say that A's interference with B's liberty was without good reason, and therefore, A wronged B.

Chapter overview

This chapter has been devoted to laying the theoretical foundations for evaluating the promises and potentials of biomedical human enhancement. A fully developed harm principle instructs us that A harms B when 1) A sets back B's interests and 2) A's set-back to B's interests also wronged B. As argued by Feinberg, both conditions are necessary in order for some act to count as being harmful to another. Set-backs to interests that result from non-wrongful actions cannot be said to be harms in the proper sense (i.e. interests damaged from individuals acting in ways to which they have a right), and mere wrongful acts that do not invade another's interest cannot be said to be true 'harms' in the proper sense either (i.e. a trespasser on a large farm who merely puts one foot on a farmer's property wrongs the oblivious farmer but does not set back any of the farmer's interests; welfare, ulterior, or otherwise).

Moreover, the concept of interests has been thoroughly discussed, as have ways in which interests can be damaged. Wrongful action against another comes with certain conditions so as to exclude acts which can be justified, excused, or thought to be permissible as resulting from individuals engaging in conduct they have a right to engage in. Jones harms Smith when he sells Smith a car that he knows to be unsafe by concealing the deadly defects from detection, but Jones does not harm Smith when Jones is offered the job that both

Smith and Jones applied for, assuming that Jones used no lecherous means for obtaining the position over Smith.

-Chapter 3-

The Harm Principle: Objections / Replies, Moral and Policy Implications, and a Guide for its Application to Categories of Enhancement

Introduction.

In the previous chapter, I argued in favor of Feinberg's conception of harm and then provided my interpretation of this conception of harm in some detail. According to this understanding of harm, harm consists of wrongful or unjust conduct that also damages the interests of others. This current chapter contains three main sections: The first section of this chapter is devoted to addressing some objections to the use of Feinberg's conception of harm in conjunction with the harm principle. Here, I will consider and respond to what I take to be legal scholar Steven D. Smith's most prominent criticism of the use of the harm principle in the Feinbergian model. In the second section of this chapter, I consider the moral and policy implications of the harm principle as it relates to the enhancement debate. In doing so, I clarify the scope and limitations of using the harm principle to evaluate categories of enhancement. The final section of this chapter deals with the application of the harm principle to categories of human enhancement. More specifically, I acknowledge that in order to apply the harm principle to moral and social issues in the enhancement debate, some supplementary principles are necessary for guidance. The supplementary principles I enumerate and describe here are not an exhaustive list for all applications of the harm principle; rather, they are to be understood as examples which will be utilized in later chapters that directly concern applications of the harm principle to categories of enhancement.

Objections to the use of the harm principle in the context of Feinberg's account of harm

In promoting the harm principle and the account of harm as formulated here, I would be remiss in not considering a prominent objection. In a 2004 paper entitled 'The Hollowness of the Harm Principle', Steven D. Smith argues that the harm principle, as devised in the Mill / Feinberg tradition, should be retired from use in moral and legal debates.⁵¹ Smith's main concern with the use of the harm principle is that its proponents argue in its favor on the basis of its initial attraction in general discourse, but then shift the meaning of harm to a more technical and narrow sense, which erodes the principle's initial attraction. In doing this, the Feinbergian analysis of harm not only sneaks in a more technical definition of harm that loses general agreement, but such a definition of harm allows proponents to insert their own normative content into the principle so as to arrive at whatever policy or legal conclusions they desire. Smith writes,

The harm principle's appeal, I argue, arises from a generic and subjective conception of harm, but that conception also renders the principle useless for its intended purpose—protecting liberty. Conversely, the principle can be made serviceable by adopting more technical and objective conceptions of what counts as harm. But these conceptions effectively empty the principle of independent content, making its content instead derivative of some independent vision or theory of government and the good life; they thereby sacrifice the simplicity and resonance that make the principle attractive in the first place (Smith, 2004).

As I have argued previously, a conception of harm that only appeals to the generic and casual use of the term would not be suitable for use in analyzing applied issues. On this point, I agree with Smith. Such a conception of harm on its own would fail in protecting individual liberty due to problems like over-inclusive criminalization. Smith further argues

⁵¹ Smith, Steven. 'The Hollowness of the Harm Principle', University of San Diego School of Law and Legal Theory Research Paper Series No. 17. 2004.

that advocates of the harm principle advertise such a principle by using this very generic understanding of harm. Then, when social policy is considered, advocates of the harm principle analyze the issues using a different standard or conception of harm. This standard of harm is the one that has been developed and discussed in this work, and by stipulating such a technical sense of harm, the harm principle loses its attraction because it allows the user to insert a particular point of view on morality and government. Both the loss of initial appeal and the ability to promote a particular normative agenda, according to Smith, are serious problems for the harm principle, and it should therefore cease to be used in moral and legal debates.

Smith's first point of concern is what he calls 'free riding', a term he uses to describe thinkers who champion the harm principle as defining the legitimate bounds of state power by merely relying on the initial intuitiveness of a casual meaning of the term 'harm'. No initial argument seems to be needed. But when these proponents of the harm principle develop a more nuanced and narrower sense of harm, they do not feel the need to justify such a move because of the initially broad agreement that accompanied the casual usage of harm. They then 'free ride' on the initial acceptance of harm understood casually, and then go on to develop a theory of harm (and subsequently a theory of the rightful limits of the law) without needing to justify such a theory or the theory's implications. He writes that, 'The greatest problem is that the possibilities of confusion and equivocation and circularity created by different meanings of "harm" permit liberal thinkers to "free ride" on the irresistible appeal of the harm principle in its more ordinary or generic senses. A favored conclusion thus becomes dependent on a sort of parasitism, and is deprived of the benefit of being tested and assessed on its own merits' (Smith 2004). He further writes that, 'Such "free riding" is

possible because, as we have seen, in its ordinary sense the harm principle states what seems to be almost a self-evident normative truth— one that resonates both with familiar intuitions and popular adages and with more developed theories of legitimate government...(and)...Once “harm” has been redefined in a more technical and much narrower sense, however, proponents of the harm principle forfeit their claim to rely on these familiar intuitions’(Smith 2004).

There are several replies to Smith’s objections. The first part of Smith’s objection does not actually disrupt my overall project here. As I interpret his first concern, Smith argues that promoters of the harm principle make a rhetorically illegitimate move by advertising the appeal of a casual conception of harm while actually endorsing a narrower and more technical conception of harm in practice. If the harm principle is to be understood as saying that the only legitimate reason for the state to intervene into individual liberty is to prevent harm to others, then Smith has a point here. Shifting the meaning of harm, within the context of defining the exact boundaries of the law, would carry with it the potential of shifting the actual boundaries of the law without needing to admit as much. It would be selling the harm principle by 1) first advertising the casual sense of harm along with its implied boundaries of the law, 2) then analyzing harm in the narrower and technical sense, 3) then championing the ‘new’ boundaries of the law that accompany such an analysis, 4) in the end asserting that everyone should agree with these ‘new’ boundaries because everyone agrees with that casual sense of harm. According to this reasoning, it would appear that a rhetorical game of three shells and a pea has occurred.

But my project here does not assume that preventing harm to others is necessarily the only legitimate cause for infringing individual liberty. I leave open this very important

question of the exact limits of the law. My position throughout this work is that harm to others is always a good reason for considering legal sanctions, depending on various other practical and theoretical assumptions (practical considerations about enforcement and economics, and theoretical consideration about justice, among other reasons). Since the exact boundaries of the legitimate use of state power are not the topic of this discussion and do not depend on the conception of harm endorsed here, Smith's worry about the effects of shifting the meaning of harm from advertising to analysis are not precisely relevant to my own project.

I also think that Smith's diagnosis of rhetorical mischief in shifting the meaning of harm is not entirely accurate in its own right. It is not at all clear that proponents of the harm principle actually employ the rhetorical methods Smith mentions when advocating in favor of the principle while refining the definition of harm. The way in which the principle, as I see it, is promoted, developed, and then utilized, is a process of clarification rather than deception or obfuscation.

The harm principle in its unrefined and general form is far from being the attractive and intuitive 'slogan' that Smith alleges. An unrefined definition of harm attached to the harm principle would yield incorrect answers to moral or legislative issues, since it would be grossly over-inclusive in its effects. The simple and unspecified definition of harm is not intuitively acceptable as Smith claims, since all one needs to do is *think* about what it would mean to warrant the state to use coercion to prevent *any* hurt or injury to others, and it becomes immediately clear that the unrefined harm principle would grant far too much power in terms of state reach into public and private lives. Such a principle is intuitive so long as one refrains from thinking one thought more on the matter. The philosophically

inclined and the minimally thoughtful person would not agree to such a broad and vague principle without wondering about a useful definition of harm. It would quickly be apparent that a casual use of ‘harm’ is not what we mean when we invoke a liberty limiting principle about harm to others. In general, the harm principle would be more likely to raise important questions instead of serving as a distracting advertisement that advocates can use to sell a different and more controversial principle.

Since the unrefined harm principle is not acceptable, the philosopher’s task is to clarify what we mean when we use the term ‘harm’ in moral and legal contexts. In this chapter, we have seen that mere hurts and injuries would not count as moral or legal harms, but rather, harms in the relevant sense involve unjustly damaging the interests of others. Instead of smuggling in controversial conditions on harm, this project carefully considers what we typically *mean* when we talk about being harmed by another in a moral or legal context. This is an exercise in making our beliefs and opinions about harm and the moral limits of the law clearer and more nuanced, and consistent with our other beliefs. It is not an exercise in slowly sneaking controversial and preconceived agendas into the definition of harm. Along the way, plausible conditions on harm are ‘tested’ by appealing to other beliefs and intuitions that we may share regarding rights, liberty, and interests of others, and a conception of harm is arrived at by striving for consistency in one’s ‘web of beliefs’. This process does not resemble the distracting and confusing tactics that some advocates of the harm principle may employ in its development and use.

The second part of Smith’s objections revolves around the idea of defining a conception of harm in a way that foists a particular idea of ‘government or the good life’

presumably onto those who may not agree. This, according to Smith, ‘empties the principle of independent content’. He further writes that,

‘But once we recognize that “harm” is being used as a term of art, and that conceptions of harm are being derived from a larger vision or theory rather than *vice versa*, it becomes apparent that there is no reason why anyone should object to the harm *principle*. Everyone can embrace the principle and simply count as “harms” injuries to the sorts of values or interests for which protection would be prescribed by his or her theory of government or the good life... Different visions or political theories will produce different inventories of harms. But there is no reason for anyone to question *the harm principle* itself.’ (Smith 2004).

This is supposed to be a disadvantage for the harm principle, since the conception of harm espoused here is merely one of many possible ways of conceiving of harm within a larger vision of values and the good life. If one can merely ‘plug into’ the harm principle whatever vision of the good life she wants to, the harm principle itself would seem to be vacuous and unsuitable for applying to any moral or legislative issue.

This objection seems to rest on a mistaken premise. It is not the case that liberty limiting principles must be completely empty of any content regarding ‘the good life’. Part of the purpose of principles like the harm principle is to offer the philosopher a perspective from which to deliberate on a moral or social issue. This perspective narrows some of the focus to considerations of harm to others (and not, for example, consequences, utility, universalizable maxims, building character, or harm to self). Granted, our conception of harm, if it is to have any applicable value, must include conditions that appeal to what is good and what is not good, since a central question we try to address in moral and legal problems is what we should value with respect to a particular issue or context. We ought not to view the harm principle, or any other liberty limiting principle, as normatively empty ‘equations’ into which philosophers and legislators can simply substitute a particular moral

or social and issue, and arrive at a definitive answer. Instead, principles like the harm principle should be understood as guides that can narrow our focus when attempting to analyze a moral problem and inform us of the conditions and constraints our analysis should include and emphasize.

Further, any discussion about liberty limiting principles and their application to moral and social issues must incorporate a basic level of general agreement among the ‘interlocutors’ involved. In endorsing the harm principle and account of harm as conceived here, it must be assumed that the targeted audience shares *some* basic beliefs and opinions about the value of individual liberty, the existence of some rights (although there may be disagreement on the details), a general conception of fairness, the importance of protecting some interests, and what constitutes a reasonably good life.

The task of developing a narrower conception of harm has less to do with advancing a specific vision of the moral life than it is concerned with attempting a philosophical analysis of what similarly minded, reasonable people who share some basic moral intuitions really mean and think when they discuss the moral limits of government with respect to harming others. Providing clarity of thought on a conception of harm can result in a more precise analysis of the applied issues as well. Describing why we think and value what we do has to presuppose basic agreement in values and beliefs. For example, it would make very little rhetorical sense to try to advance an understanding of the harm principle to an 11th century European king. Very basic beliefs and intuitions will differ drastically between an advocate of the modern harm principle and a medieval king. Such an interlocutor would have little use for the concepts of individual rights, personal autonomy, or even interests of individuals distinct from the interests of the monarchy. Deliberating with an 11th century king about

social issues within the context of the harm principle would likely be an exercise in futility, since so little in the way of basic foundational beliefs and values would be shared.

While it might be true that anyone *could* substitute whatever vision of the good life they might prefer into the harm principle, it is clear from our previous discussion about alternative accounts of harm that different ways of understanding harm would not yield acceptable results. A will-based account of harm, while it does instantiate an alternative vision of what is valuable, would fail to explain certain cases of harm as harmful. Even a so-called valueless approach to harm like the comparative account has serious drawbacks that would render such an account unsuitable for applying to moral and legislative issues. While the interest based account of harm articulated here does promote a particular vision of the good life, it does so within a context of those who share many of the same background assumptions and intuitions.

Fortunately for my purposes here, advancing a theory of harm need not be done under the assumption of a theoretical vacuum. My project here is not to convince the tyrant or the anarchist or even the staunch utilitarian philosopher (or any other ‘type’ of committed theorist) that the harm principle constitutes the one and only method of discerning moral and legal ‘truths’, and that the tentative moral and regulatory conclusions drawn in the proceeding chapters come from a final and complete analysis. As Feinberg himself points out in his General Introduction of ‘Harm to Others, ‘If two persons possessed no important moral beliefs in common, they could not expect to reach agreement by appealing to the beliefs they “already have”. My assumption, however, is that almost all my readers share with me a large number of values and ideals, and that they all would be willing to modify or relinquish some of their beliefs if they could be shown that by doing so, they would

strengthen the support for others that are more fundamental, and increase internal coherence generally' (Feinberg 18). In a similar vein, my own purposes in this chapter and the next chapters are not to convert vastly differently-minded theorists on their beliefs about a conception of harm to others that emphasizes respect for certain interests. Rather, I assume that the readers share many of the same values advanced by this conception of harm, and that a nuanced, refined, and clearer conception of harm (given those shared values) can offer a useful perspective from which to approach basic moral and social questions within the context of biomedical enhancement. And as I state in Chapter One, the legislative and regulatory conclusions are tentative and germane only to the harm principle, since I also recognize that the harm principle is not the only perspective from which to analyze moral and legal problems.

While disagreements still occur between those who share similar values and ideals, at least some (or many) of these disagreements can be remedied or addressed by drawing proper distinctions and clarifying concepts, and 'testing' these clarifications and distinctions against other beliefs. Contrary to what Smith seems to argue, the use of the harm principle as conceived here does not illegitimately foist one particular vision of moral value or government upon a huge array of dissenting voices (tyrants, anarchists, and others), because it must be acknowledged that we assume some basic levels of agreement on an overall picture of a good life and just society.

The harm principle: its moral and legislative implications

The harm principle is a useful device for ethicists and the legislators who are faced with the many questions that will arise with the increase of biotechnology capabilities. But inevitably, the question will remain, ‘How far can the harm principle go in providing moral and legislative answers to their corresponding questions?’ The harm principle will not provide a panacea for determining the moral status of human enhancements nor will it extend to showing the legislator or policy maker all of the laws and policies that need to be implemented so as to safely wield the new found scientific advances. What the harm principle can provide, though, is a liberty limiting principle upon which many can agree, that can act as a moral/legal ‘filter’ through which categories of human enhancement can be processed in order to evaluate the most basic and fundamental moral and legal concerns of each category of enhancement; namely, the extent to which harm to others will occur.

To articulate the intended implications of the harm principle in answering legal and moral questions about human enhancement, the following formulation will be helpful: If some type of enhancement made possible by scientific bioengineering is incompatible with the harm principle, then that type of enhancement is such that its use and development as a form of human enhancement either causes significant harm to others, or presents a significant enough risk of resulting in harm to others. We can say that the use of that enhancement would be wrong (since harms entail wrongs). We are also justified in saying that we have good reasons to consider imposing restrictions or regulations with respect to that enhancement, on the basis of its alleged moral impermissibility by way of being incompatible with the harm principle.⁵²

⁵² I say ‘might’, here, because as I will point out shortly, there may be various competing reasons against making E illegal or imposing various restrictions or regulations.

Now, suppose that some other form of enhancement is found to be compatible with the harm principle after a thorough investigation. We can conclude that this enhancement does not pose significant risk to harming others, nor does it harm others in its mainstream deployment. Based on this analysis, we *cannot* thereby conclude that the pursuit and use of this particular enhancement is morally permissible, *nor* can we conclude that it does not qualify for legal sanctions against it. Even if it is compatible with the harm principle, it could be morally wrong for some other reason. Moreover, it could be the case that its use ought to be made illegal or regulated in drastic ways for reasons not relevant to the harm principle. In a word, we can say that if an enhancement does not pass the harm principle, then other things being equal, it warrants consideration for regulation or legal sanction. And if an enhancement is consistent with the harm principle, then its moral and legal status can still remain undetermined. Those means of enhancement that cause harm to others can be ruled as being wrong, and would give us reason to consider the need for legal sanctions.

It is certainly debatable whether the criminal law is within its rightful bounds to proscribe *some* act-types that are immoral but not necessarily harmful. Indeed, a much more controversial liberty limiting principle, the principle of legal moralism, is appealed to at times during debates in legal and social philosophy. Thomas Mappes writes, ‘According to the principle of legal moralism, the law may justifiably be involved to prevent immoral behavior or, as it is often expressed, to “enforce morals”’ (Mappes 210). Notice that legal moralism gives reasons for the state to proscribe those acts that harm others, given what we have said regarding what constitutes the conditions for harming others, since harming others entails immoral action toward others. However, despite the fact that all act-types that harm others are immoral, it does not follow that all immoral act-types harm others. Legal

moralism, for example, gives reasons to proscribe some act-types that might be dubbed as ‘harmless wrongdoings’---a legal moralist might argue that homosexual acts between consenting adults are immoral, and therefore, the state has good reasons to enact laws against such act-types.⁵³ But it is important to keep in mind that legal moralism is a very different and more controversial liberty limiting principle.

Although the harm principle as I have construed it implies that those acts that are harmful to others are also immoral, the harm principle on its own does not entail that legal moralism must be accepted or rejected. As far as legislating against immoral behavior, my intended use of the harm principle does achieve the effect of condemning one class of immoral acts, but only as an unintended consequence of achieving the primary and most important goal of the legal sanction, which is to prevent citizens from inflicting harm on other citizens. The purpose of the harm principle will be to sift out harmful bioenhancements, because on the one hand, bioenhancements that harm others do so in an immoral manner (as I have stipulated earlier in the chapter), and on the other hand, they are in conflict with one of the legitimate goals of the legal sanction, which *is* to prevent citizens from inflicting harm on other citizens.

A defense of this latter conclusion is well supported in the literature. For example, echoing Feinberg, ‘...the criminal law system is the primary instrumentality for preventing people from intentionally or recklessly harming one another. Acts of harming then are the direct objects of the criminal law...’ (Feinberg 1984, 31). Moreover, in regards to the state’s ability to enact certain laws, Henry M. Hart Jr. has written that ‘...knowledge of the

⁵³ For a thorough discussion about the moral status and legislative status of homosexual acts, see John Corvino’s ‘Why Shouldn’t Tommy and Jim Have Sex? A Defense of Homosexuality’ in “Same Sex: Debating the Ethics, Science, and Culture of Homosexuality” (1997). Rowman & Littlefield Publishers.

circumstances of fact which make the law's directions applicable will ordinarily exist when *harms* are inflicted or risks created of the elementary and obvious types sought to be prevented by these intrinsically *wrongful* crimes' (Hart 1958, emphasis mine).⁵⁴ And finally, Herbert Wechsler, in writing about one of the penal sanction's goals, declares that '...while invocation of a penal sanction necessarily depends on past behavior (of an offender), the object is control of *harmful conduct* in the future' (Wechsler 1952, emphasis mine).⁵⁵ While the state and the criminal law provide many possible functions, one type of function of the criminal law is to prevent and discourage, on threat of punishment or other hardship, those act-types that harm others or create substantial risk for harming others. It is for these reasons that the harm principle can establish some initial legislative conclusions in addition to moral conclusions on various forms of bioenhancement. However, it will be evident in the next chapters that legislation must take into account practical considerations about enforcement, economic cost, and justice. A social policy is only as good as its ability to be implemented.

For instance, if the harm principle leads to a conclusion in favor of legislative restrictions, such restrictions would need to be formulated in the context of a society that must operate on some specified financial budget and allocation of resources, within the bounds of law enforcement, and in the context of a reasonably just democratic state. Therefore, categories of enhancement that are harmful to others must be regulated by social policies that are economically viable, do not drain resources from more important areas, are reasonably enforceable with respect to the current law enforcement climate, and that conform with the general principles of justice that ground a democratic society. Legislation guided by the harm principle cannot be unbound from these pragmatic limitations.

⁵⁴ See, Hart, Henry M. Jr., 'The Aims of the Criminal Law'. 23 Law and Contemp. Problems. 401. 1958

⁵⁵ See Herbert Wechsler, 'The Challenge of a Model Penal Code'. 65 Harvard L. Review. 1097 (1952).

To summarize, I have established the scope of the harm principle as it will relate to human enhancements when such enhancements are to be considered contrary to the harm principle. The harm principle, as I have formulated it, will be sufficient for ruling out those forms of human enhancement as morally and legally impermissible should such forms of enhancement be found to pose significant risk of harming others. This is not to say, however, that an application of the harm principle can offer on its own a complete picture on legislation. In the event the harm principle can justify legislation against some type of enhancement, subsequent legislative regulations must accord with matters of practicality, enforcement, and economic costs. Therefore, the harm principle must be understood as a legislative device assuming that ‘all things are held equal’. In general, unavoidable ‘harm to others’ will entail both moral condemnation and reasons in favor of some form of legal sanction.

As I have argued in this section, the exact scope of the harm principle within the debate of human enhancement will be clear-cut in some instances, but in many other instances, less explicit. Some instances of biomedical enhancement may be necessarily harmful to others, and good reasons for bans or sanctions would not be difficult to muster. However, I suspect that a majority of the cases of human enhancement and their corresponding technologies will be more difficult to evaluate in terms of moral and legal permissibility. Moreover, just because a type of enhancement can be said to be consistent with the harm principle does not entail that the unregulated pursuit of that enhancement is either morally or legally legitimate. Other objections, which make no mention of harm as a relevant concern, may prevail in restricting a particular enhancement. Nevertheless, the harm principle, according to these scope-related considerations, will constitute a worthy

framework that will substantially contribute towards sound ethical and social policies concerning human enhancement.

Applying the harm principle: supplementary normative principles

Thus far, I have explained the harm principle as a liberty limiting principle that describes some of the normative limits of state power. The harm principle, understood here, states that harm to others is a good reason in favor of state intervention as long as there are no other means for preventing harm. I have also devoted considerable attention towards explaining my interpretation of Joel Feinberg's analysis of the concept of harm. Harm, properly understood, consists of the wrongful invasions of the interests of others.

In order to apply the harm principle to actual cases, Feinberg recognizes the need for supplementary principles to be considered in conjunction with the harm principle. In this last section, I will briefly outline some principles of application that are necessary to guide the harm principle's application to the forms of enhancement that I consider in the next chapters. These normative considerations do not exhaust the scope of all normative considerations needed to apply the harm principle to any form of enhancement, but serve well as representative examples.

Understanding harm and risk

Many times, certain activities or behaviors may be said to carry a risk of harming others. A central concern when applying the harm principle would be to determine whether

the behavior/activity under question carries a significant enough risk of harming others to warrant various social policy recommendations, up to and including criminal sanctions.

First, we must ascertain whether there actually exists a causal relation between the activity in question and harm to others. In some cases, causal relations can be easily established. For instance, carrying large amounts of plutonium on one's person in public places would put others at high risk of radiation poisoning, and the causal relation between the relevant harm to others and the activity of carrying plutonium in public would not be difficult to establish. Conversely, a more difficult case arises when we consider whether the second hand vapors of electronic cigarettes that are used in public places actually cause harm to others. If a causal relation cannot be established, then it would be unwarranted to argue that such associated risks should be included in our application of the harm principle.

Second, we must consider the gravity, or seriousness of the harm that is at risk of occurring. This can be understood in several ways. One way to understand the gravity of harm would be to ask if the activity in question is likely to harm a large number of people. In our example of carrying plutonium in one's pocket, the gravity of potential harm would be high, since in a populated area, many people could suffer radiation poisoning. This would be a reason in favor of more restrictive social policy attached to carrying plutonium. Another way to understand the gravity of harm would be to consider how serious the potential harm would be with respect to the adverse impacts to those who are harmed. Radiation poisoning would be considered a serious negative impact to a person's condition, and the gravity of harm in this case would be high. The same sort of conclusion could be argued in the case of operating automobiles under the influence of alcohol. When harm to others occurs as a result

of drunk driving, the gravity of the harm has the potential to be very high, with loss of life and limb to many individuals a possibility.

Third, we should consider the likelihood that the harm would occur. Some activities might carry some risk for harming others, but the likelihood of that harm could be extremely low. Skydiving carries the risk of parachute-failure that could result in the skydiver landing on top of innocent bystanders. The probability of skydivers harming others in this way is remote, and so an application of the harm principle would place a very low likelihood risk on skydiving with respect to this particular harm. On the other hand, the likelihood of harming others when engaging in street racing on public roads would be unacceptably high. In this case, the gravity of the harm would be significant (high speed crashes of innocent bystanders), and an application of the harm principle to street racing on public roads would recognize the substantial risk of harm to others. All of these aspects should be considered when evaluating the risk of harm from a particular activity or behavior. Risk can be said to be low when the gravity of the harm is low and the probability of the harm is low. The same can be said (though to a lesser degree) for cases where the probability of harm is high but the gravity of harm is extremely low (perhaps so low that we can question if the ‘harm’ is even to be considered a legitimate harm), as well as cases for when the gravity of harm is high but the probability of harm is extremely low. In these latter cases, where we must also weigh various state sanctions against the welfare interests of everyone in individual liberty, the risk of harm will be considered to be low despite the very rare occasion someone might be harmed severely. Restricting everyone’s liberty to do x where x very rarely causes harm, in only exceptional circumstances, might very well be an unfair restriction of individual liberty in general. These may not be a complete list of conditions that need to be considered in

weighing risk of harm, but these are necessary conditions that any ethicist and legislator must consider in deciding on the normative status and legislative options with respect to concrete issues.

Legislative bans as last resort

One guiding principle for philosophers and legislators, which lies within the overall spirit of the harm principle, is to consider legislative bans as the last resort for preventing harm, where harm may occur. This guiding principle will be relevant to the second part of physical enhancement and the policy recommendations in genetic enhancement of children. Individual liberty is a welfare interest for all citizens, and if the prevention of particular cases of harm can be effected by social policy initiatives in place of legal coercion, then non-coercive means for harm prevention would be preferred. One example would be the argument about public harm that is incurred by the manufacture and sale of unhealthy food (i.e. French fries). One may argue in favor of legally banning the manufacture and sale of French fries due to the public harm that this causes through increasing health problems. However, if there is evidence to show that health education could decrease the consumption of French fries, and harm prevention can be achieved by non-coercive state means, then this would be preferred as it does better to preserve everyone's welfare interest in individual liberty while also preventing public harm. The same argument could apply to potentially harmful exercises of speech (this is controversial in itself). If hate speech could count as harmful to others, one should look to counter-speech and education as possible methods of harm prevention associated with such speech, and only reserve legal sanctions against certain speech in the most extreme cases (like inciting lawlessness, libel, etc.). Otherwise, the

‘chilling’ effects of outright bans of the content of speech as ‘first resort’ means of harm prevention would threaten the welfare interests of everyone.

The importance of self determination

The harm principle can be used to explain why paternalism would, in most cases, be considered unjust set-backs to the interests of those who are affected by it. This normative principle will come into play in the section on cognitive enhancement. People have welfare interests in personal autonomy (see Chapter 2), and it would be unjust to restrict the autonomy of others in order to make ‘better decisions’ on their behalf, or for their own good. A welfare interest in personal autonomy would be wrongly invaded because such an invasion would be morally indefensible. There would be no justifiable reason, in general, for one to restrict another’s freedom to choose. One of John Stuart Mill’s arguments in ‘On Liberty’ illustrates this point well. Individuals know their own desires and their own visions of the good life better than others do and they are most interested (have most at stake) in making decisions about how to live their lives. For these reasons, a general policy of paternalism would be to invade others’ interests in autonomy without sufficient justification. Even in the cases where someone might be in a better position to make a decision on someone else’s behalf, and ‘know’ the better option to take, that person is not justified in over-riding the person’s freedom by deciding for them. The only justified action here would be to offer information so that the person can make a better informed decision. The freedom to choose does come with some costs; namely, the freedom to make mistakes. However, just because people are liable to make mistakes does not mean that we are justified in suspending their

ability to make free choices. Alan Goldman has argued (persuasively) that self-determination is a value in its own right, such that even if there were computer programs that could decide who we should marry, we would still want to make that decision ourselves.⁵⁶ We value our autonomy even if we are liable to make mistakes sometimes. Without self-determination, many other valuable things would not be possible. Keeping our welfare interest in autonomy is necessary for the pursuit of all other ulterior interests.

These supplementary considerations are not a complete list, by any means, of normative considerations that would need to be included in an analysis guided by the harm principle. These supplementary considerations are necessary if we are to apply the harm principle to concrete issues. I draw some attention to these considerations here because they will become relevant in the application of the harm principle to the categories of human enhancement in the next chapters. As Feinberg correctly notes, different philosophers and legislators may formulate and use different supplementary considerations in applying the harm principle to various topics. There exists *some* degree of flexibility in so far as determining the content of the supplementary considerations, but there are also limitations to how far these considerations can be taken. Such considerations may not be used to justify state intervention on the basis of concerns outside the scope of harm to others.

Chapter overview

This chapter was devoted to several issues regarding the harm principle within the context of this project. First, I addressed some objections against the harm principle's utility

⁵⁶ 'The Moral Foundations of Professional Ethics', by Alan Goldman, Rowan, and Littlefield, 1980

as a liberty limiting principle for guiding moral and policy discussion. I suggested how these objections are either misguided or how they do not encroach on my overall project. Then, I emphasized that the harm principle is a guide that has limitations which begin where relevance to harm to others ends. However, this is not to say that this analysis as a whole is feeble in its scope---indeed, it will offer a foundation for addressing the ethics and politics of biotechnology that is intuitive and that can be used to draw consistent conclusions across different categories of enhancement. Finally, I provided an outline of the normative supplementary principles that need to be considered in conjunction with the harm principle in order to apply the harm principle to categories of enhancement. The ones catalogued here are specific to my purposes in the next chapters, but they are not a complete list of supplementary principles that would be required for other applications of the harm principle. Although there is some flexibility in terms of which supplementary principles could guide the harm principle, there are still clear boundaries. Namely, the harm principle cannot be guided by principles that depart from the consideration of harm to others, and so supplementary principles that endorse paternalism or legal moralism would be illegitimate uses of the harm principle.

Part II: The Application of the Harm Principle to Specific Biotechnologies

-Body, Mind, and Birth: Physique Enhancement, Cognitive Enhancement, and Genetically Engineered Children-

Introduction

Part I of this work, which consisted of Chapters One, Two and Three, dealt chiefly with establishing a methodological approach that could be used for a sound analysis of human enhancement and with specifying the theoretical framework from which such an analysis would begin. Part II of this work will focus entirely on the application of the harm principle to three categories of human enhancement: the body, the mind, and the beginning of life. Chapter Four will provide an examination of physique enhancement. Chapter Five will be devoted to cognitive enhancement. Chapter Six will cover genetic enhancements that parents may choose to bestow upon their children or embryos before birth. These categories of enhancement science affect many aspects of our lives: our bodies, our minds, and our births. They indicate that medical science has allowed us to control our lives and dictate who we are more than ever before in our history, with the future bringing ever more promise for improving upon the essence that nature has provided us. Examining the application of a fundamental liberty limiting principle to these influential means of bioenhancement will provide a philosophical foundation that can help prepare us for the biotechnology revolution that has already begun and will continue to progress.

Chapter 4

Physique Enhancement: A Cultural Movement from Antiquity to Modernity

*'Under a spreading chestnut-tree
The village smithy stands;
The smith, a mighty man is he,
With large and sinewy hands;
And the muscles of his brawny arms
Are strong as iron bands.'*

-Henry Wadsworth Longfellow – 'The Village Blacksmith'

Ancient Greek writers, such as Aristotle and Plato, make note of the admiration that citizens of ancient Greece held for strong and athletic physiques, like that of legendary Olympic wrestler of antiquity, Milo of Croton. To supplement his training program for maintaining his massive muscles and crushing strength, the great Milo supposedly consumed 10 or more pounds of meat daily.⁵⁷ Fast-forward more than two millennia and we might say that little has changed in western society's prevailing attitudes toward physical aesthetics favoring a strong and fit build. In contemporary times, fitness enterprises are a multi-billion dollar industry (according to rough estimates in 2008, \$70 billion) where much of the focus of consumers is to achieve and maintain a certain type of physique or level of fitness. Less than a century ago, this was accomplished wholly by fulfilling three conditions: proper exercise, proper nutrition, and recuperation. Early 'strongmen' who performed during the late 1800's and early 1900's, like Earle Leidermann, Charles Atlas, Arthur Saxon, and Eugen Sandow, brought awareness to the benefits of practicing weight-lifting movements with barbells and dumbbells for improving one's muscular strength, appearance, and overall health. Eating a protein-rich diet, performing proper exercise, and getting proper recuperation were the only means available for physique improvement at that time.

⁵⁷ See in particular, Aristotle's Nichomachean Ethics, Book II.

At around the period shortly following the Second World War, scientists began experimenting with the male sex hormone, testosterone, both in natural and synthetic forms, for increasing muscle mass and decreasing body-fat in individuals. By the 1960s and 70's, athletes and non-athletes alike were making use of anabolic steroids in conjunction with exercise so as to improve strength and lean body composition.

Currently in the U.S. and in many other western countries, the use of anabolic-androgenic steroids (among other so-called performance enhancing agents) without a physician's prescription is criminalized as well as banned in many athletic organizations, both professional and amateur. In the U.S., anabolic-androgenic steroids (AAS) are classified as Schedule III drugs under the Controlled Substance Act of 1991. Moreover, AAS use is viewed by a large portion of the public (including the U.S. Congress) as immoral.⁵⁸ Still, the use of illicit ergogenic aids remains prevalent among both athletes and 'recreational users'. The National Institute on Drug Abuse has recently reported that the best estimates of the number of illicit steroid users aged 18 and older in the United States reaches the hundreds of thousands.⁵⁹ While a majority of anabolic steroid users are male, AAS use among females has been on the rise. In 2004, the CDC reported that up to 7 percent of ninth grade girls have admitted to using anabolic steroids.⁶⁰ While males tend to turn to AAS use to aid in gaining muscular weight, female AAS use is usually aimed at weight control and lean body-mass improvements. It should be noted that regardless of whether the AAS user is male or female, proper exercise and diet must accompany steroid use in order to observe the drugs' maximum effects. Contrary to popular myths, AAS use does not merely 'pump' the

⁵⁸ Zernike, Kate. 'The Difference between Steroids and Ritalin is...' The New York Times, March 20, 2005.

⁵⁹ National Drug Intelligence Center, The Dept. of Justice, 2010.

⁶⁰ AMA and Archives Journals (2007, June 7). Study Examines Characteristics Of Female High School Students Who Report Steroid Use.

muscles up with water, but rather operates under a complex system of biochemical mechanisms, whereby enhanced protein synthesis enhances muscular strength and growth.⁶¹

In addition to pharmaceutical avenues for obtaining physique enhancement, bioengineering in genetics has made advances that allow for emerging methods of enhancing muscular strength and lean body mass. Research performed in 2003 by Sukho Lee, Elisabeth R. Barton, H. Lee Sweeney and Roger P. Farrar found that injecting a virus that expresses insulin-like growth factor-I (IGF-I) into rats that underwent concurrent resistance training induced muscular hypertrophy.⁶² IGF-I differs from AAS use because the former is a protein that is encoded by a gene in the human genome while the latter consists of a host of male hormones (either natural or synthetic). While this research has profound therapeutic consequences for treating muscular wasting diseases, its application to physique enhancement is likewise clear. Otherwise healthy individuals, who desire to build a lean and muscular physique that rivals the proportions found in the pictures of comic-book heroes, may decide that instead of injecting testosterone every day, they might prefer to supplement their diets and exercise programs with gene therapy that takes advantage of IGF-I mechanisms.

Other means of enhancing muscular strength and hypertrophy include inhibiting the body's natural production of myostatin, a protein that is normally produced in humans and animals which acts as a muscular growth inhibitor. Myostatin is a key *limiting* agent in the body's development of muscular size. Genetic variations (mutations) in myostatin production occur normally within numerous species, including humans; indeed, it has been

⁶¹ See, Fahey, T.D. (1998). Anabolic-androgenic steroids: mechanism of action and effects on performance. In: Encyclopedia of Sports Medicine and Science, T.D.Fahey (Editor). Internet Society for Sport Science: <http://sportsci.org>. 7 March 1998.

⁶² Sukho Lee, Elisabeth R. Barton, H. Lee Sweeney and Roger P. Farrar. Viral expression of insulin-like growth factor-I enhances muscle hypertrophy in resistance trained rats. J Appl Physiol 96:1097-1104, 2004

often speculated that many professional bodybuilders have been born with varying degrees of inhibited myostatin production. This genetic variation, in conjunction with other genetic factors, the requisite and liberal use of AAS and other ergogenic aids, specialized dietary practices, and adequate training protocols, typically is what goes into the making of the extreme muscular development that can be observed in the elite bodybuilding circles.⁶³

Many examples of individuals who lack ‘normal’ levels of myostatin due to genetic variation are much bigger and stronger than the rest of us without even adhering to a weight-lifting program or bodybuilding diet. They are, in a sense, ‘born with big muscles’.⁶⁴ Species of animals, most notably sheep, cattle and dogs, include examples of myostatin mutations.

A study performed at the National Institutes for Health concluded that some whippet dogs bred for racing have been found to express this mutated myostatin production with the resultant animals exhibiting what has been called ‘double muscling.’ This can explain their enhanced performance in speed and endurance during races.⁶⁵ Reducing an organism’s production of myostatin by way of biotechnology remains a topic of recent scientific inquiry. For instance, a pharmaceutical vector that acts as a ‘myostatin blocker,’ or a form of gene therapy that can alter the body’s production of myostatin, could not only aid in medical research aimed at treating muscular wasting diseases (i.e.: muscular dystrophy), but also have

⁶³ Many other factors contribute to a person’s ability to develop large muscles, most of them being genetic. Muscle-belly length, tendon insertion points, muscle fiber type, neuromuscular efficiency, digestion efficacy, natural hormone production all play key roles in determining how muscular a person can ultimately become. For further reading, see the works of Stuart McRobert, Arthur Jones, and Ellington Darden, Ph.D.

⁶⁴ See article by Andreas von Bubnoff, ‘One Strong Tyke: Gene mutation in muscular boy may hold disease clues’. Chicago Tribune, June 24, 2004.

⁶⁵ Mosher DS, Quignon P, Bustamante CD, Sutter NB, Mellersh CS, Parker HG, Ostrander EA (May 2007). "A mutation in the myostatin gene increases muscle mass and enhances racing performance in heterozygote dogs". PLoS Genet. 3 (5): e79. doi:10.1371/journal.pgen.0030079. PMID 17530926.

profound effects on the scientific ability to enhance an otherwise healthy person's muscular size and strength beyond the current norm.⁶⁶

The moral and political debate surrounding physique enhancement in popular culture and the media is active and lively. Before detailing a moral and legal analysis of biomedically-induced physique enhancement using the harm principle, I will examine the prevailing arguments that have been made in favor of criminalizing various forms of physique enhancement. Much of what is said condemning medical vectors for enhancing muscles may initially seem irrelevant to the harm principle, but it is useful to be clear about the contemporary arguments and then determine the extent to which they relate to the current project.

Many of those who support criminalizing and condemning the use of AAS do so because of AAS's harmful effects on those who use them. For many years, the harmful side-effects to the user's physical and emotional health have been recited and cataloged by government agencies, medical doctors, and the mass media. For example, the National Institute on Drug Abuse Research Report Series on Steroids states that 'While anabolic steroids can enhance certain types of performance or appearance, they are dangerous drugs, and when used inappropriately they can cause a host of severe, long-lasting, and in some cases, irreversible negative health consequences. Anabolic steroids can lead to early heart attacks, strokes, liver tumors, kidney failure, and serious psychiatric problems'.⁶⁷ A common strategy for arguing against AAS use is to point to this data and suggest that AAS use for physique enhancement (non-therapeutic use) is wrong and should not be legalized because of

⁶⁶ Dietary supplement companies, which are usually immune from FDA evaluation, have attempted to manufacture supplements that block myostatin production; New Jersey based supplement distributor 'Prosource' being one example. As of the writing of this work and according to general popular consensus, these attempts at blocking myostatin in the body have met with limited to zero success.

⁶⁷ Nora D. Volkow, M.D. writing for the NIDA.

the harmful effects users will suffer as a result of taking the drugs.⁶⁸ Roughly, this version of the anti-steroid argument can be summarized as follows:

- 1) AAS use is harmful to the person who uses AAS.
- 2) Those lifestyle choices that are harmful to the one who engages in them are wrong and/or ought to be criminalized.
- 3) Therefore, AAS use is wrong and/or ought to be criminalized.

This argument mentions harm, but does not do so in a way that has direct relevance to the harm principle. Recall that the harm principle forbids those act-types that result in harm being inflicted on others, not the self. It is important to engage briefly with this line of reasoning in order to situate it within the overall scope of the harm principle.

For argument's sake, assume that the first premise is true.⁶⁹ If AAS use physically injures the user or imposes significant risk to the user of developing severe ailments, what can we say regarding the second premise? Surely all of those act-types or lifestyle choices which are harmful or even physically injurious to the user or agent cannot be said to be candidates for criminalization. But those who argue against steroid use often assume that the second premise is also true.

According to the CDC, the leading causes of death in 2006 were heart disease and cancer. Diabetes was 6th, and liver disease was 12th. We all know now that poor diet and lack of exercise increase the risk of developing heart disease and certain types of cancers, and obesity (which is correlated positively with poor diet and lack of exercise) is a significant

⁶⁸ For example, see the general argument in Charles E. Yesalis and Virginia S. Cowart, 'The Steroid's Game'. Human Kinetics Publishers; 1 edition (April 1998)

⁶⁹ The extent to which AAS use is harmful to the user is a debated issue. For example, the writings of Sidney Gendin, Ph.D of Eastern Michigan University have argued that the health risks of steroid use are largely exaggerated. However, estimates on the harmful effects of AAS on the user have been less in their favor in publications by the National Institute on Drug Abuse, and writers like Charles E. Yesalis and Virginia S. Cowart; see their book, 'The Steroid's Game'. Human Kinetics Publishers; 1 edition (April 1998)

risk factor for developing diabetes.⁷⁰ The leading causes of chronic liver disease are from excessive alcohol consumption and poor dietary habits.

According to the anti-steroid argument gleaned from the NIDA's statement condemning AAS use on the basis of the harmful effects users may suffer, we can ask the following rhetorical questions: Should it be a crime to regularly consume fast food and to refuse to exercise? Would it be legitimate for the government to criminalize the possession of or distribution of potato chips and beer? I take it that most reasonable thinkers would reject these sorts of prohibitions. That certain behaviors or choices in diet and physical activity may be harmful to the agent who makes such choices does not *by itself* give enough warrant for those behaviors or choices to be worthy of criminalizing. If we are to be consistent with our current beliefs and practices regarding the consumption of potentially harmful foods and adherence to sedentary lifestyles, then the anti-steroid argument must either force us to conclude that eating sausages and lunch meat ought to be criminalized, or else to re-evaluate the soundness of the anti-steroid argument itself (particularly in premise two). In addition to criminalizing and condemning the consumption of sausages, such a liberty limiting maxim would also forbid base-jumping, contact sports, driving an automobile, working as a police officer or firefighter, working on a commercial fishing boat, enjoying a beer, and engaging in any other risky or harmful activities. If we are to follow the argument to its logical conclusion, the participation in such activities would not only be merely frowned upon by the community and by the government, but also criminalized.

This particular anti-steroid argument is mentioned here because it plays a crucial role in many anti-steroid claims. As I have argued, it is not enough to show that something is

⁷⁰ Interestingly, metabolic disease including diabetes (which is largely preventable by lifestyle habits) has been recently linked with the development of Alzheimer's Disease, a dementia-spectrum disorder that is also a major cause of morbidity in the western developed world.

merely harmful to oneself in order to justify legal sanction. But if we browse the literature on AAS use, it becomes immediately apparent that this assumption is implicit in anti-steroid campaigns that attempt to persuade the reader of the harmful AAS side effects. This implicit argument against AAS use does not immediately establish good enough reasons for legal sanctions, due in part to the false assumption that mere harm to self does not automatically entail a sufficient warrant for criminalization.

Notwithstanding the anti-steroid argument in the NIDA's statements, there are two main arguments that are relevant to AAS use, genetic interventions aimed at physique enhancement, and the harm principle. The first argument deals exclusively with AAS use, and the second argument applies to both vectors for physique enhancement. They are, respectively, as follows:

1) AAS use is immoral and ought to be criminalized in accordance with the harm principle due to the side effect known as 'roid rage', whereby steroid users allegedly become especially prone to violence and aggression.

2) Pharmaceutical and genetic technologies for physique enhancement should not be pursued and utilized because these technologies present significant risk to large populations for developing psychiatric disorders, particularly beginning in childhood (i.e.: body dysmorphic disorders).

Are these two lines of argument supported by an application of the harm principle? What moral and legislative conclusions should be drawn from these potential objections to physical enhancement technology? First, we will examine the issue of 'roid rage' and its bearing on the harm principle.

Anabolic-androgenic steroid use and violent behavior

Criminal and civil law aim to reduce and deter acts of violence, especially when those acts of violence result in personal injury to another innocent party. Offenses that can be the result of violence include murder, attempted murder, rape, armed robbery, simple assault, battery, mayhem, reckless endangerment, kidnapping, unlawful imprisonment, and many others. Most of these offenses are both immoral and illegal. The central reason why these act-types attract almost universal moral condemnation and legal sanction is because of the unjust set-backs to interests the offenders who engage in these act-types inflict on their undeserving victims. That is, these act-types are wrong and made illegal because of the *harm* that the victims and society incur as a direct result.

Consider the following argument:

Argument R

1) For all x, if x causes the user of x, y, to become violent toward others, then the use of x is both morally wrong and ought to be criminalized.

2) The use of anabolic-androgenic steroids causes the user, y, to become violent toward others.

3) Therefore, anabolic-androgenic steroid use is both morally wrong and ought to be criminalized.

This argument, which is formally valid, needs to be examined in terms of its soundness. Premise one is a universally quantified material conditional that states that if something causes the user of that something to behave violently toward other people, then the use of that something should be illegal and is immoral. Is this a true proposition? Surely any potion that had been found to turn Dr. Jekylls into Mr. Hydes should be banned outright.

Most reasonable people would agree that all things being equal, turning oneself into a violent monster by taking a drug would be immoral and subject to criminal sanction. But at this point, premise one requires some additional details. We also must consider the benefits of a particular technology or substance and weigh them against the social and economic costs of enforcing restrictive laws. This argument as it is stated leaves out these important considerations.

Consider the recreational consumption of alcoholic beverages. Many people across a variety of countries (including the U.S.) enjoy the occasional and moderate consumption of alcoholic beverages without becoming unruly, nasty, or otherwise violent toward others. Indeed, it is often said that alcoholic drinks can be used as a ‘social lubricant’ whereby indulging in a drink or two during social interactions can make for a more enjoyable, less stressful and friendly experience. Mild and moderate alcohol consumption, therefore, is often associated with having a good time with friends and family and with relieving otherwise tense social interactions. Many people benefit from the recreational use of alcoholic beverages.

On the other hand, alcohol consumption has also been associated with unruly and violent behavior directed toward others. Fights break out in bars where liberal amounts of alcohol are served. Drunken brawls occur both in public establishments and private residences, and alcohol is sometimes blamed for domestic violence between spouses (purported ‘drunken wife-beaters’) and violent abuse directed toward dependents (child abuse). It is uncontroversial that alcohol can cause *some* individuals to become violent toward other people.⁷¹

⁷¹ What I mean by ‘cause’ here can be understood as follows: To say that alcohol was a cause in John’s hitting his friend, Jane, is to say that but for John’s excessive alcohol intake, he would not have hit Jane when he did.

But only considering these drawbacks alone will not do; American history has taught us about the social perils that the prohibition of alcohol caused in the early 20th century. Moreover, it seems to be unjust to morally condemn and criminalize those who consume a substance that brings out violent and harmful behavior only in a minor percentage of the population. Merely because Charley becomes angry and violent every time he drinks beer does not thereby mean that Jack, Jill, and Ann, who do not become violent when imbibing beer, ought to be condemned and banned from drinking beer.

The effect of alcohol on these four drinkers could be the result of several different underlying factors. It could be the case that alcohol consumption increases violent tendencies in everyone who drinks, and this increase is roughly the same across people. If this were true, then we would need to explain why Charley succumbs to violence and Jack, Jill and Ann do not. Conversely, it could be that alcohol consumption only increases violent tendencies in a minority with certain underlying risk factors, and Charley happened to be a member of that unfortunate minority. Perhaps environmental and genetic factors could explain why alcohol affects a minority in ways that arouse violence. In any way, it matters little which reason is correct as long as we hold the results between the two reasons constant. The application of the harm principle concerns us with the actions and behavior of people. From moral and legal perspectives, we can only judge these actions in terms of the harmful effects of these actions and behaviors on others.

Surely this counterfactual reasoning does not capture a complete picture of causation, but it can at least establish a general understanding that a causal factor in John's violence was his alcohol abuse. Other things, like John's defective character, can also be causative to his violent propensities that may or may not result in actual violence delivered to others. Those cases where we can say but for John's alcohol abuse, he would not have hit Jane (despite his already unfortunate character defects), we can also point to alcohol as a causal factor in the resultant violence.

So Premise one of argument R is problematic, and needs to be adjusted. Let us consider a more precise iteration:

Argument R*

1) For all x, if x causes some subset of users, y, to harm others (in this case, by violence), and if that risk is not counterbalanced either by some corresponding benefit or by costs associated with criminalization, then the use of x is both morally wrong and should be criminalized.

2) The use of anabolic-androgenic steroids does cause some subset of users, y, to harm others, and the associated risk is not counterbalanced by either benefits or by costs associated with criminalization.

3) Therefore, anabolic-androgenic steroid use is both morally wrong and ought to be criminalized.

Premise one of R* has been adjusted from R to eliminate potential worrisome logical consequences that premise one of R had. Premise one of R* now recognizes that we must consider the possible social ills of criminal sanctions so as to mitigate alcohol prohibition-type effects. More importantly (and the main focus of my discussion here), in order for a substance to be considered wrong and a candidate for legal bans, the use of that substance needs to cause a certain level of risk that the user will become violent (and in turn, harm others) as a result of using the substance. This makes the example of imbibing a beer or glass of wine look less threatening toward our argument. It is certainly much more controversial to admit that alcohol consumption poses a risk that outweighs both its recreational benefits and the costs associated with bans and enforcement, to warrant outright moral and legal proscriptions. Despite the fact that a minority of alcohol drinkers may

become violent and harm others, the risk posed by the majority who can enjoy a beer without risking anti-social consequences is minimal and not enough to warrant a ban applicable to everyone.

According to premise one of R*, it is necessary to consider the risks and costs of AAS use. Generally, it is assumed that the benefits associated with AAS use do not outweigh the risks or costs that are being considered. We can ask whether the benefits of allowing for alcohol consumption outweigh the risks that some minority of the drinking population will harm others. Indeed, part of the reason why alcohol prohibition was lifted dealt with the harmful effects of prohibition itself. The social ills associated with alcohol prohibition may not be associated with bans on AAS use, and it is not yet apparent that bans on AAS would share the same costs associated with bans on alcohol. However, this fact on its own does not show us that alcohol legislation and potential legislation for AAS use must necessarily diverge. As I have claimed, alcohol consumption *per se* does not seem to be harmful to others when it is practiced by many people. A minority of individuals who abuse alcohol, who recklessly operate machinery while under the influence, and who become violent toward others can be rightly condemned, but this does not justify forbidding the many others who can drink without harming others from doing so on pain of criminal punishment. The same reasoning can, and perhaps should, be adhered to with regards to AAS use.

Finally, physique enhancement is non-therapeutic, and so is limited as to the maximum beneficial value it can attain. The relevant benefits would include making one's physique and physical strength 'better than well'; it would not include the elimination of suffering caused by disease or injury. Improving the physique primarily results in aesthetic gains similar to the enhancements reaped from elective cosmetic surgeries that do not correct

for a deformity or illness. Physique enhancement may also increase strength, which may have benefits in special circumstances of emergency (defending oneself from a violent mugger, lifting heavy objects off of an accident victim, etc.). But all of these benefits, comparatively speaking, are luxuries in part because they are non-therapeutic improvements to well-being. We could roughly equate such benefits to the recreational gains associated with modest consumption of alcohol. If the unjust thwarting of the interests of others results from AAS use, then that means that AAS use proves to be harmful to others. Any aesthetic benefit gained might well be outweighed by these harms, as would those benefits that enhanced strength would afford on the rarest occasions of emergency. When normatively weighing our options, mere enhancements of an already illness-free existence must always take a back seat to harmful consequences in the form of unjustly damaging the interests of others. Our focus, therefore, would seem to be aptly directed on the question of harm (costs) associated with physique enhancement.

Consider now premise two of R*. Does AAS use for physique enhancement cause a risk of harm to others that is not counterbalanced by associated benefits and the cost and enforcement of bans? For some A to be a risk for B, there must be some causal relation between A and B. Establishing a causal relation between AAS use and violence directed towards others is necessary in order to establish any well-defined risk whatever. That a person who engages in A also engages in B does not entail that engaging in A causes one to engage in B. Mere correlation between A and B does not establish a causal relationship between A and B. People who practice medicine also eat food, but the practice of medicine cannot be said to cause those who practice medicine to eat food. Furthermore, even if a causal relationship can be established, the significance of the risk must then be established.

To determine that, the following considerations need to be addressed to the question of AAS use: 1) the gravity of the harm and 2) the likelihood of harmful conduct.

In recent years, research has examined the relationship of AAS use to aggression and harmful behavior. According to the scientific data, AAS use has been correlated with aggression, criminal activity, and violence. The National Institutes for Drug Abuse, a subdivision of the NIH, writes that ‘Some steroid abusers report that they have committed aggressive acts, such as physical fighting or armed robbery, theft, vandalism, or burglary. Abusers who have committed aggressive acts or property crimes generally report that they engage in these behaviors more often when they take steroids than when they are drug free’(NIDA, 2006). Furthermore, NIDA has stated that, ‘In a few controlled studies, aggression or adverse, overt behaviors resulting from the administration of anabolic steroid use have been reported by a minority of volunteers’(NIDA, 2006). What we can conclude from these findings is that a minority of steroid users may display violent tendencies. Additionally, researchers in Sweden have found that athletes who were taking steroids at the time of the study scored ‘outside the normal range’ on tests designed to measure aggression and hostility when compared with athletes who have never used steroids before.⁷² Moreover, it has also been suggested in some studies that anti-social criminal behavior has been linked with steroid use.⁷³

On the other hand, it has been suggested that AAS use does not cause aggression. Rather, aggressive individuals who are predisposed toward violence and who use steroids are more likely to act on these character traits while on the drugs and aggression-prone

⁷² Galligani N, Renck A, Hansen S. Personality profile of men using anabolic androgenic steroids. *Horm Behav.* 1996 Jun;30(2):170-5

⁷³ Klötz F, Garle M, Granath F, Thiblin I. Criminality among individuals testing positive for the presence of anabolic androgenic steroids. *Arch Gen Psychiatry.* 2006 Nov;63(11):1274-9.

individuals are more likely to use steroids. According to this line of reasoning, individuals who actually resort to using AAS for physique enhancement were already prone to ‘anti-social traits’ to begin with.⁷⁴

This incongruity of expert opinions on whether AAS users are more aggressive and violent due to AAS use has led many in the scientific field to take a skeptical stance. Dr. Jack Darkes, a psychologist at the University of South Florida, states that, ‘Aggression in AAS users is rare and there is no consistent evidence that it is a direct effect of AAS. The designs used offer discrepant pictures’ (Darkes, 2007).⁷⁵ Furthermore, researchers Amsterdam, Opperhuizen, and Hartgens have come to several conclusions on AAS use and harm. They write that, ‘Available data give no clear, consistent support for the hypothesis that AAS use causes aggression’, and ‘There is...no epidemiological evidence for the precipitation of violent behavior by AAS’ (Amsterdam et al. 2010).⁷⁶

Despite the fact that AAS use has been correlated with aggression and violence, a causal relation between AAS use and violence has not been established. Not only has a causal relation not been established despite ample research, any link or correlation between violence and AAS use seems to be weak. Violence and aggression in steroid users appears to happen only on rare occasions. Until conclusive evidence to suggest a causal relation is established, it seems reasonable to proceed under the assumption that AAS use has not been shown to cause harm to others through the aggression and violence of its users. This does not prevent us from examining the degree of risk that would be accompanied by AAS use *if a*

⁷⁴ Kanayama G, Pope HG, Cohane G, Hudson JI. Risk factors for anabolic-androgenic steroid use among weightlifters: a case-control study. *Drug Alcohol Depend.* 2003 Jul 20;71(1):77-86.

⁷⁵ Darkes, Jack. APA Talk: Anabolic/Androgenic Steroids and Aggression. 115th Annual Convention of the American Psychological Association (APA) in San Francisco, CA on August 19, 2007

⁷⁶ Jan van Amsterdam, Antoon Opperhuizen, Fred Hartgens. Adverse Health Effects of Anabolic-Androgenic Steroids. *Regulatory Toxicology and Pharmacology.* 57, 2010. 117-123.

causal relation between AAS use and violence is found. As was mentioned previously, the risk must be weighed in terms of the gravity of the harm and the likelihood of the harm. First, I will make a brief note on weighing gravity against likelihood. I will then examine the gravity of harm on its own terms. Then, I will proceed to examine the likelihood of harm on its own.

We know that AAS use allows for bigger and stronger muscles given that sufficient exercise and nutritional conditions are met. However, having bigger and stronger muscles is neither a sufficient nor a necessary condition for being better equipped to harm more individuals than a person of lesser degrees of muscularity and strength. Having bigger and stronger muscles does not make someone capable of harming a greater number of individuals the way that having a loaded machine gun would allow an otherwise unarmed citizen to harm a large number of people. A stronger person is still limited by having only two arms and two legs. On the other hand, stronger muscles made possible by AAS may, in some circumstances, allow for the user to harm a particular person in a more serious manner than would otherwise be possible. All other things equal, strength and size can be advantageous in hand-to-hand combat. A blow landed by a heavy bodybuilder can inflict more damage than a blow landed by a malnourished child. Still, many other factors must be determined if we are to predict how harmful an individual can be toward another individual during a violent confrontation. Mixed-martial arts training can influence the extent to which one person can harm another during a scuffle. A high degree of skill in the martial arts or other 'combat sports' can allow a weaker and smaller fighter to inflict more serious injury on an otherwise 'untrained' but stronger adversary. Likewise, the use of a weapon (either legally

or illegally possessed) can allow for a weaker and smaller person to exceed the harmful capacities of a stronger but unarmed steroid user. Finally, the degree of harm that could result from any particular blow could be a matter of mere luck. A wild swing taken by an inexperienced fighter that happens to land in a particularly vulnerable part of his opponent's body can potentially inflict more harm than a series of blows inflicted onto well-protected areas of the body.

Nevertheless, it must be recognized that bigger and stronger muscles can increase one's ability to inflict grave injuries on another. It should also be noted that other traits that are not immediately associated with the potential to harm others can serve the same harm-enhancing role. Fast reflexes, long arms, tall stature, and mental acuity are all traits that can offer a tactical advantage in delivering grave harm to a victim. But the enhancement of these capacities does not immediately bring to mind direct questions of harm that are associated with arming oneself with weapons or studiously training in mixed-martial arts. Being bigger and stronger, being unusually tall, and having fast reflexes are all traits that have the potential to be used to harm others in more serious ways, but this potentiality is not essential to these traits. Similarly, evil-intentioned people who are especially clever can misuse their guile to devise exceptionally creative ways of torturing innocent victims, but cleverness is not necessarily associated with harming others. These traits are merely contingently associated with harming others, whereas the practice of mixed-martial arts is pursued with the purpose of inflicting injury onto others (either defensively or offensively). The purpose of a weapon is to injure others, whereas building stronger muscles and honing one's cleverness does not necessarily entail a related purpose. That stronger muscles built with the aid of AAS offers the potential for inflicting grave injuries on a victim does not, on its own, give sufficient

reason to support outright bans. The strongest person in the world could be a practicing pacifist, in which case the likelihood of harmful violence would approach zero. Conversely, the function of being armed is necessarily to injure others (either defensively or offensively), which immediately raises a question about social harm.⁷⁷ So, stronger muscles can increase the potential for the gravity of harm, but this increase is only a contingent aspect of stronger muscles. Now, let us explore the likelihood of harm in the context of AAS use.

If we assume a causal relationship between AAS use and violently harmful behavior, the significance of the risk attached to AAS users would consist (in part) of how likely it is that users will harm others. Suppose AAS use is demonstrated to markedly increase the likelihood that the user will harm others. Suppose further that the gravity of the harm remains unchanged with respect to how grave non-AAS users could harm others. This alone would, *prima facie*, tip the scales toward legislative restrictions on AAS use. Getting beaten up unjustly would count as a harmful event under the conception of harm, regardless of whether the assailant acted due to a defective character or due to AAS use. Of course, the ‘final’ determination would need to be made within the context of balancing the other normative considerations that have been discussed (benefits of use, costs of restrictions and their enforcements, etc.).

As determined from the previous analysis regarding gravity, we have already concluded that AAS use increases the potential for gravity of harm. We also know from the literature that the causal relationship between AAS use and violence, if there is indeed any between the two, is weak. Combining these two conclusions would lead us to say that AAS use increases the potential for gravity of harm and may slightly increase the likelihood of

⁷⁷ This is not to say that the harm principle would necessarily disallow the study of martial arts or the possession/bearing of weapons (It may or may not: that discussion is for another time and place). This point is merely to draw a conceptual distinction that can have an effect on how we think about risk.

harm. Since AAS use for physique enhancement bestows mostly cosmetic benefits and does not cure a disease, we might be inclined to say that any increased likelihood of harmful conduct due to AAS use might constitute a significant enough risk to justify legal bans. However, since AAS use and associated violence seems to happen only on rare occasions⁷⁸, we should be inclined to allow for such low occurrences of harmful conduct caused by AAS use, just as we are not willing to criminalize alcohol consumption despite the minority of drinkers who harm others.

Let's compare AAS use with that of alcohol use again. Alcohol consumption could enable the drinker to harm people in more serious ways than they could sober. The disinhibitory effects of heavy alcohol consumption on cognitive functions could allow the drinker to inflict physical harm on those he would never hit when sober. Similarly, a steroid user, with their stronger muscles, would inflict more serious damage on a person they hit than if they did not use steroids. Moreover, the benefits of alcohol consumption seem to be similar to the benefits of an enhanced physique: benefits that do not cure or treat a disease and which consist most entirely of recreational gains. Yet, we accept the low likelihood of harmful conduct associated with alcohol consumption because it seems unjust to deprive the many people who can consume alcohol without harming others of the liberty to do so on the basis that a minority of drinkers will harm others. Feinberg correctly writes that, 'If the use of liquor is simply banned across the board, millions of citizens will be deprived of their wholly innocent and harmless pleasures' (Feinberg, 1984, pg. 194). We could accept a similarly low incidence of harmful behavior caused by AAS use for physique enhancement, given what we know about the gravity and likelihood of the harmful conduct and the value of

⁷⁸ Darkes, Jack. APA Talk: Anabolic/Androgenic Steroids and Aggression. 115th Annual Convention of the American Psychological Association (APA) in San Francisco, CA on August 19, 2007

individual liberty. However, this discussion must take place under the assumption that the harm caused by AAS use is indeed *caused* by AAS use. As the research has shown, this assumption has not been substantiated.

So, given the various degrees with which steroid use is purported to be attributed to aggression and violence, does premise two of R* hold up? The best way to answer the question of harming others due to steroid use has to acknowledge the scientific limits on information, and in doing so, proceed in the following manner. AAS use has, according to the scientific data, been shown to be *loosely* correlated in a positive way with aggression and violence. Further, this correlation occurs in a *minority of the population*, and the associated violence is rare. It would seem, then, that any causal relation that might be established from this body of evidence would be accompanied by a low likelihood of harm. Most importantly, there is no concrete data that has established that AAS use *causes* violent behavior. We are therefore not justified in inferring that AAS use causes users to become violent toward others. Since a causal relationship is necessary for there to be a risk at all, and we have also concluded that AAS use seems to have a low likelihood of being linked with violence, we should conclude that the truth value of premise two of R* is undetermined.

Looking back at argument R* we should realize that merely because premise two was shown to be undetermined, it does *not* follow that the conclusion of R* is *necessarily* false as well. What this shows is that the reasons used to support the conclusion are not decisive reasons. There is a great deal of uncertainty about the connection between AAS use and harm to others, with no causal connection having been established. Two possible ways to proceed would be as follows: legislate against AAS use in an attempt to mitigate harm that could be associated with its use, or rule in favor of individual liberty and regulate AAS use

instead of imposing outright bans.⁷⁹ Since the empirical findings on AAS use and aggression has not implicated AAS use as the cause of aggression or violence, and our current thesis operates under a presumption in favor of individual liberty, outright bans would not seem to be the appropriate option.

This analysis has demonstrated so far that a frequently cited argument (R*) that condemns AAS use in regards to AAS use and the risk of harm to others by steroid induced criminality is unsuccessful. Scientific research on this matter does not implicate a concrete causal relation between steroids and aggression. Although AAS use may be wrong and justifiably proscribed by the law for other reasons (harm-related or otherwise), R* cannot on its own establish this conclusion. Therefore, this argument against AAS use from steroid-induced aggression does not show either that AAS use is wrong or that it should be banned⁸⁰

Physique enhancement and harm from body image disorders

Next, I will examine whether biomedical means for physique enhancement will have a negative impact on body image and self-esteem throughout society, especially with respect to children. Body image perceptions of children and adults have begun to suffer as a result of shifting cultural norms about physical appearance and conceptions of beauty and what is desirable. There has been increasing concern about women and girls who become dissatisfied with their own bodies. Their dissatisfaction has been partly due to media

⁷⁹ General remarks on social policy and regulation of physique enhancement will be discussed toward the end of this section.

⁸⁰ To be sure, should research on AAS use and violent behavior consistently demonstrate a strong and significant causal relation between the two, then we would need to adjust our evaluation of premise two of argument R*. An analogous example might be drawn with cigarette smoking and the second hand smoke that harms others. Before extensive studies were done during the nascent period of cigarette smoking in society, harm from second hand smoke was speculative. Many years down the road we have come to understand the *significant risk* of harming others that cigarette smoking poses through well-designed studies---an adjustment had to be made between the moral and legal concerns with regards to smoking and harming others between the early years and the current time-period as new information was revealed.

portrayals of what is 'beautiful': the lauding of exceptionally thin physiques seen in runway models and film actresses. Psychologist Sharon Lamb states that 'Girls today, even very young ones, are being bombarded with the message that they need to be super-skinny to be sexy' (Nanci Hellmich 2006).⁸¹

These messages, both implicit and explicit, have an effect on the psychological development of children whose minds and attitudes are undergoing the vital period of transition during which personal identity and self-confidence are being developed and shaped. Not only can cultural representations have a negative impact on people's body image and mental health, but it has also been shown by psychologists Sonia Tucci and Jennifer Peters that as little as one brief exposure to depictions of 'idealized' models can have an impact on the psychological health of viewers in respect to their body image.⁸² Measurements taken on body satisfaction decreased when participants in their study were shown a model-thin image, indicating that single exposures to media depictions of 'culturally ideal' physiques could have an adverse and lasting impact on one's body image.

Furthermore, although the majority of studies relating body image / self-esteem to cultural influences have focused primarily on females, Jill Neimark writes in *Psychology Today* that '...males with body image disorders are showing up with increasing frequency in psychiatrists' offices. More and more men are abusing steroids in an attempt to build muscle.' (Neimark, 1996).⁸³ Authors Harrison G. Pope Jr., Katherine A. Phillips, and Roberto Olivardia write in their book, *The Adonis Complex: The secret crisis of male body obsession*, 'For some, body image concerns have grown into outright psychiatric disorders,

⁸¹ Hellmich, Nanci. 'Do thin models warp girls' body image?' USA Today, September 26, 2006.

⁸² Tucci S, Peters J. 'Media influences on body satisfaction in female students.' *Psicothema*. 2008 Nov;20(4):521-4.

⁸³ Neimark, Jill. 'The Beefcaking of America' *Psychology Today*, November 1, 1996.

ruining their own lives and often the lives of those who care about and love them. And for every boy or man with a full-scale body image disorder, there are many more with milder cases of the same body obsessions—not disabling in any way, but still enough to hurt’ (Pope, Phillips, Olivardia, 2000).

These recent findings and attitudes indicate that both women and men can be dissatisfied with their bodies in a harmful way. These unhealthy shifts seem in large part due to cultural and media influences. Cultural shifts portrayed by the mass-media have reinvented the image of the ideal male body. This ideal embodies a hyper-masculine, powerful, lean, large-muscled and well-proportioned physical presence. Men are now expected to be physically strong and muscular, sometimes in proportions that exceed the capabilities of most ‘drug-free’ trainees. Studies have also been able to make direct links of ‘ideal’ physiques in media portrayals to corresponding decreases in body image satisfaction in young men.⁸⁴ That is to say, there is sufficient evidence to suppose that young men’s body images and self-esteem are negatively affected by cultural influences like the mass-media. As documented by Pope et al., the severity of psychological and social disturbances that are caused by cultural depictions of the masculine ideal can range from mild sub-clinical levels of anxiety and preoccupation with feelings of inadequacy to genuine psychiatric illness. For women, body dysmorphic disorders are often co-morbid with eating disorders. Anorexia nervosa and bulimia are the most severe, with some sufferers dying from the diseases. Among men, the psychiatric community has now accepted the diagnosis of muscle dysmorphia. Researchers Olivardia, Pope, and Hudson write in the *American Journal of Psychiatry* that, ‘Muscle dysmorphia is a form of body dysmorphic disorder in which

⁸⁴ Blond, Anna. ‘Impacts of exposure to images of ideal bodies on male body dissatisfaction: A review’. *Body Image*, Volume 5, issue 3 (September, 2008), p. 244-250.

individuals develop a pathological preoccupation with their muscularity' (Olivardia et al. 2000). The authors note that anxiety and feelings of shame in men with muscle dysmorphia negatively impact both their social life and occupational success, and societal factors seem to be key factors in giving rise to this psychological disorder. Not only have Hollywood actors become much more muscular, but even children's toys, such as GI Joe action figures, have progressively gotten leaner and more heavily muscled in the arms, chest, and shoulder regions.⁸⁵

Given the abundant research that suggests that cultural influences in the media give rise to body dysmorphic disorders in both young men and women (some of whom are adolescents and children) we may legitimately ask if the pursuit, deployment, and availability of physique enhancements through pharmaceutical and gene modification present a significant risk of harm. Specifically, would images of these physique enhancements cause young men and women to develop unhealthy body images and psychiatric illnesses? One might reason that, since cultural influences today already have given rise to body dysmorphia in young men and boys, the pursuit of physique enhancement technologies would increase such mental illnesses. Advances in gene therapy that modify IGF-I in the muscles of prospective trainees, procedures that can safely block the production of myostatin in the human body (which would thereby lift the current limits on most trainee's muscular size and strength), and more advanced and 'safer' steroid-drug alternatives may create a culture that prizes specific body types even more than it does today. The rise of biotechnology aimed at physique enhancements might promote a societal shift whereby most male pop-culture icons would sport 18-inch biceps and a six-pack of abs. Young men and boys who develop body

⁸⁵ Olivardia, Roberto Ph.D., Harrison G. Pope, Jr., M.D., M.P.H., and James I. Hudson, M.D., S.M. 'Muscle Dysmorphia in Male Weightlifters: A Case-Control Study'. *Am J Psychiatry* 157:1291-1296, August 2000.

image disorders, like muscle dysmorphia, due to viewing such icons, are thereby harmed. In Chapter Two, I argued that for someone to be harmed, she would need to have had her interests set back and to have been wronged or treated unjustly. Certainly for a large portion of young males to develop serious psychological disturbances in the form of muscle dysmorphia or other related body image disorder would constitute a set-back to their welfare interests.

We all have welfare interests in good health, both mental and physical, and it would count as being a set-back to one's welfare interest in having good mental health should one develop a psychological disorder, such as body dysmorphia. Moreover, these set-backs to welfare interests may even adversely affect other welfare interests, as Pope et al. mentions that severe cases of body dysmorphia often interfere with a person's ability to relate to others socially and with a person's occupational success. We may even argue that sub-clinical levels of anxiety and feelings of shame associated with body image disorders can thwart one's welfare interests if these low-grade symptoms persist for a long enough duration.

Concerns over body dysmorphia that occur in susceptible children might suggest a reason for banning the development of physique enhancement technology. Someone in favor of banning physique enhancement technology could argue that these individuals' interests were unjustly set back by the industry responsible for developing the physique enhancement and promoting a certain body-type as being desirable and superior to the 'norm'. But, to others, this may initially seem absurd. It might seem mistaken to suggest that biotech companies which produce these enhancement technologies harm those who develop psychiatric disorders as a result of a cultural shift and an increase in media portrayals of the hyper-muscular male physique.

Examining this issue further, an opponent of biotechnical physique enhancements might try to draw a parallel with tobacco companies. Tobacco companies produce products like cigarettes. Cigarette smoking causes harm both to the smoker and to others through second-hand smoke. Additionally, the opponent could argue that the advertisement and mass-media depictions of tobacco use result in a cultural attitude that is harmful to children. That is, children who are constantly bombarded by television programs, films, ads, and billboard signs that promote favorable depictions of tobacco use are harmed when they become addicted to cigarette smoking at an early age.

It could be pointed out that this analogy is not completely accurate. In the case of tobacco use, people choose whether to take up smoking. Similarly, muscle enhancement ‘culture’ could also lead people to decide to use muscle enhancement products. Such use could, like in the tobacco case, result in harms. However, the muscle enhancement case differs because the mere exposure to alluring advertisements and mass-media depictions of enhanced physiques on their own would lead to body dysmorphic disorders. No corresponding harm seems to be present in the tobacco example. A child who observes a cartoon character smoking a cigarette is only harmed after she decides to take up smoking. A child who is repeatedly exposed to cartoons with bulging biceps *could* develop a psychiatric condition. But this difference does not threaten the force of this analogy. If anything, this discrepancy between the two cases would suggest that muscle enhancement use and culture representations of such enhancements pose additional risks of harm.

It could be retorted that being harmed by media/cultural influences would be the type of harm that we would not want to legislate against, as it would seriously threaten a right to free expression. At this point in the analysis, we must distinguish restricting muscle

enhancement production from how the products are advertised and distributed, and the mass media's portrayal of enhanced physiques. Even if large-scale media depictions of enhanced bodies results in increased prevalence of body dysmorphia in children, it does not follow from this finding alone that we ought to ban muscle enhancement production. However, this finding would still establish harm to others that is closely associated with muscle enhancement technology. It would therefore be worth briefly discussing censorship and muscle enhancement.

Claiming that others are harmed by the suggestive psychological forces in popular culture appears to be similar to the harmful effects of youth bullying that leads to adolescent suicide. Admitting this does not unreasonably stifle free expression or speech. In legislative terms, one can feel uneasy about criminalizing these types of harms, where a presumption of liberty might give us reason to guard against the hasty censorship of speech and expression. We would accordingly want to grant the freedom to express or suggest messages while recognizing that people should be able to resist whatever maladaptive psychological responses that result from the broadcasting of unsavory messages. Still, there seems to be clear cases where such censorship seems less problematic. Examples include disseminating the recipe for synthesizing virulent strains of influenza, exposing children to graphic images of warfare and violence, and distributing detailed instructions on how to disrupt presidential security. It becomes obvious that the free and unregulated dissemination of such messages can be reasonably implicated (at least in part) in the harms that may result (i.e.: a bio-weapon attack, children with post-traumatic stress disorder, and a presidential assassination). Valuing and mandating freedom of expression cannot entail valuing and mandating this freedom without exceptions.

Should the state limit physique depictions of hyper-muscular males in the media and pop-culture? Since our framework incorporates a general protection of liberty, and the freedom of expression and speech are key elements in a free society, the burden would seem to be on the state to give convincing reasons to support bans of hyper-muscular physique depictions. The same worries have been expressed with regards to the legitimacy of censoring pornography.⁸⁶ Disregarding the possible offensive or obscene effects that pornography might have on others, some writers have argued that certain forms of pornography should be censored because they harm women in their interests in civil rights. Certain forms of pornography that express the objectification and subjugation of women foster an oppressive attitude toward women on a societal scale, which stifles women's civil rights in society.⁸⁷ If the denial of women's civil rights is a harm (which it is), and pornography causes this harm, then pornography should be banned.

Some of the empirical data on pornography seems to suggest that there is a correlation between unhealthy attitudinal shifts toward women and viewing pornography. The Attorney General's Commission on Pornography has supported this correlation.⁸⁸ However, the same empirical data also recognizes that pornography is not the sole cause (if it even is a cause) of inequalities between the civil liberties of men and women and the harm that women suffer in society. We would therefore be inclined to argue that a liberal framework that favors liberty would do well to use the criminal law as a last resort for

⁸⁶ Two liberty limiting principles can be invoked to support the state bans on pornography: the harm principle and the offense principle. Joel Feinberg has rejected the harm principle's relevance to censorship, but has appealed to the offense principle to regulate pornographic material. See, Joel Feinberg, 'Social Philosophy'. Foundations of Philosophy Series. Ed. By Elizabeth and Monroe Beardsley. Prentice Hall, 1973.

⁸⁷ See Catharine MacKinnon's "Not a Moral Issue" and "Francis Biddle's Sister: Pornography, Civil Rights and Speech", in *Feminism Unmodified*, Harvard University Press. 1987. It is important to note that a distinction is made between 'erotica' and 'pornography', where the latter denotes material that has a dehumanizing and harmful nature and the former does not.

⁸⁸ See 'Social Ethics: Morality and Social Policy', Thomas Mappes and Jane Zembaty. 6th edition. McGraw Hill, 2002.

preventing harm to others, especially where the application of criminal sanctions would entail limiting the basic freedoms of speech and expression. Avenues that would mitigate societal harms associated with pornography could instead be pursued. These would include various educational initiatives in schools and an ongoing public discourse.

However, the case of censorship of pornography and the case of physique enhancement differ in an important way. Pornography distribution and viewing is done in ways that can be avoided by those who do not wish to be exposed to such depictions. A popular cultural shift toward unhealthy body image would be something much less avoidable by children and adolescents who are most vulnerable to developing psychiatric disorders. The bombardment of unhealthy body image ideals and subsequent psychological harm suffered by children might be more akin to the psychological effects some soldiers suffer from when they develop post-traumatic stress disorder (PTSD) during combat tours. Soldiers who succumb to PTSD do so because of the terrible circumstances that they face in combat. Likewise, little boys and girls who succumb to body dysmorphic disorders are no more responsible for their harmful conditions than are the soldiers with PTSD. Children lack, to a very large extent, control over the environment in which they are entrenched. This is why we feel the need to protect children from harmful environmental influences. Moreover, in the latter case, there may or may not be a culpable party to blame for the harm that the soldiers with PTSD suffered (although the enemy combatants *might* qualify), while in the former case the victims of body dysmorphia could point to blameworthy parties. But, this difference does not undo the fact that both classes of victims suffered harm caused by forces that were more or less unavoidable. A conscripted Vietnam soldier suffering from PTSD and a child who develops body dysmorphia could not have avoided the harmful effects of their unfortunate

circumstances in the same way that responsible adults can choose to avoid viewing pornography that depicts women in demeaning scenarios.

Additionally, one can question whether physique enhancement technology will, in fact, give rise to a cultural shift that praises more hyper-masculinity in males (which would then cause declines in the body image perceptions of males). Since the increase of body dysmorphic disorders in males in recent years that has been connected with pop-culture depictions of highly muscular males, it is tempting to assume that further physique enhancement technology will only make an already troubling public health problem even worse. But we are not justified in making this assumption without substantial evidence in its favor. It is a prediction about what *will* happen *if* gene therapy and new drugs that enhance muscular size and strength are introduced into society. Predictions of this type need to be backed by some empirical support. It is not enough that they are argued for by mere arm-chair speculation. To borrow a phrase coined by journalist Christopher Hitchens, we can maintain that ‘What can be asserted without evidence, can be dismissed without evidence.’⁸⁹

This prediction can only be substantiated by empirical data that suggests that a significant positive correlation can be drawn between physique enhancement technology and harmful cultural shifts that lead to psychiatric illness. Moreover, we would also need evidence to believe that the corresponding harm could not be mitigated by educational initiatives, prudent legislation, and private sector regulations. Since we are working under a presumption in favor of liberty, we would do well to seek ways of regulating physique enhancement that allow for an optimal level of freedom while reducing harms as much as possible within the context of a just framework. Outright bans on physique enhancement would therefore not be preferable to regulation and educational initiatives if the latter can

⁸⁹ Hitchens, Christopher. ‘Mommie Dearist’, *Slate*. Oct. 20, 2003.

obtain this balance better than or as well as the former approach. Given these assumptions of liberty, and lacking substantial empirical evidence that would tip the scales in favor of absolute bans, the most reasonable social approach to physique enhancement at this point would seem to be a combination of regulation and education.

We could avoid societal harm from occurring as a result of body image disorders associated with physique enhancement in two main ways: First, we should institute regulatory guidelines regarding who would be permitted to use the available enhancements. Second, we should institute an effective educational directive aimed at teaching young people how to develop and maintain a healthy body image. It would also be prudent to encourage a cultural shift away from idealizing certain body types. This would be one goal of educational programs.

A social policy that would accompany the introduction of biomedical physique enhancement into society would need to achieve three broad goals: regulate who would be permitted to utilize these enhancements, educate the public (particularly children) about healthy body image, and encourage a broader notion of health and fitness while discouraging narrow and unhealthy ideals. When an activity might cause harm to others, it would be prudent to regulate it in ways that minimize that harm.

As I have discussed earlier, the most likely ways that physique enhancement could result in harming others (i.e.: increased aggression from AAS use and the rise of body dysmorphia) do not, on their own, warrant absolute moral condemnation or strict and absolute legal bans. Adherence to the harm principle might support regulations in regards to who would be permitted to use physique enhancement technology and under what conditions. For example, children, whose bodies are still developing and growing, ought not

to be permitted to take advantage of physique enhancement technologies for reasons of physical safety and also for reasons pertaining to mental competence in decision making. Children are not permitted to purchase cigarettes, alcoholic beverages, firearms, and drive automobiles for similar reasons. Lacking the cognitive capacity to practice good decision making in regards to their own well-being and the well-being (interests) of others, children should not have access to certain activities that are otherwise enjoyed relatively freely by adults. Such access is justifiably restricted so as to prevent children from harming themselves and others.

Moreover, sports federations, both amateur and professional, can be given the freedom to implement policies as they see fit. A good example can be found in the sport of powerlifting. Powerlifting federations in which athletes can choose to compete vary with respect to their policies on drug-testing for AAS use and other ergogenic aids. Some federations require that the athletes submit to drug-testing whereas other federations do not.⁹⁰ Athletes who compete in the latter type of federation may choose to compete while taking AAS. Under this set-up, it would certainly be morally wrong when athletes clandestinely use steroids or physique enhancement while competing in organizations where drug use is banned. Cheating during a competition would constitute harming another by unjustly damaging a fellow competitor's ulterior interest in winning. Competitors in a drug-free competition have an ulterior interest in doing well in the meet, and when a competitor who wins does so while concealing the drug-use that gave him the unfair advantage over his

⁹⁰ For example, powerlifting federations like WNPf and USA Powerlifting require their athletes to be subject to drug-tests for AAS and similar forms of enhancement. On the other hand, the WPO federation does not require athletes to submit to drug-testing, implicitly 'allowing' athletes to compete while using AAS and other ergogenic aids otherwise banned from other organizations.

peers, that competitor both wrongs all of the other competitors in the competition and also damages their interests.

Additionally, a sound social policy operating under the spirit of the harm principle would accompany physique enhancement with educational programs. These educational initiatives would inform children from a young age of the importance of maintaining positive body perceptions and physical health while also encouraging a more tolerant culture in which media depicts a variety of body types. They, of course, could be privately or publicly funded. Similar to safety programs already taught in schools, it would be useful to incorporate curriculums that would teach children about having a positive attitude about one's body and how to keep it healthy.⁹¹

A body image program could be easily integrated into the curriculum of a health or gym class, much in the same way that driver's education is integrated into health classes in high schools around the nation. These programs would not need to be costly, and any such expenses associated with education could be funded, at least partly, by the revenue brought in by the biomedical companies that develop, distribute, and make a considerable profit from the physique enhancement products. Children could be taught that a healthy body is a desirable body, whether it is muscular or merely 'fit'. Standards of fitness would be adjusted to accommodate the genetic variations that everyone has, and children would be helped to recognize that having a certain body-type is only a small fraction of what makes someone a worthy person in society. Much of this policy initiative could also be assisted by shifts in cultural attitudes that start with ordinary people, instead of the law.

⁹¹ Some physicians have suggested that BMI (body-mass index) is not a reliable means for determining overall weight-related health since it does not take into account lean body mass versus fat related body mass.

Research has demonstrated the effectiveness of education and positive body image perceptions. Research performed by Rodgers R. and Chabrol H. found that while female subjects who viewed images that depict models who have very thin body-types scored lower on tests used to measure body image satisfaction, female subjects who also viewed images that depict models with more normal body-types scored better on the same tests used to measure body image satisfaction. This suggests that the negative body image attitudes that are attributed to cultural influences can be reversed and undone by the same cultural influences designed to convey a slightly different (and healthier) implicit message.⁹² Studies like these offer empirical support for thinking that an educational initiative to mitigate harmful body image in the age of physique enhancement can be successful. Through health education, modest reassurance initiatives, and a shift in children's exposure to media images of 'idealized' models to ones that span a variety of 'normal' body-types, the possible harms associated with body image disorders could be addressed in an efficient and affordable manner.

The harm principle and conclusions on physique enhancement

In the first section of Chapter Four, I applied the harm principle that was developed and argued for in the first three chapters. I identified two key ways in which physique enhancement technology could be found to violate the harm principle: 1) violent behavior caused by AAS use and 2) body dysmorphic disorders suffered throughout society due to cultural shifts accompanied by physique enhancement technology. In regards to the first point, the causal connection between violent behavior and AAS use has not been firmly

⁹² Rodgers R, Chabrol H. 'The impact of exposure to images of ideally thin models on body dissatisfaction in young French and Italian women'. *Encephale*. 2009 Jun;35(3):262-8. Epub 2008 Sep 20.

established in the scientific literature on the subject. However, even if a causal relationship is established, it is likely to be a weak one, and AAS use would likely be subject to similar regulations that we enforce for alcohol consumption. With regards to the second concern, the prediction that introducing physique enhancement to the public consumer would cause societal harm, has already been shown for the use of steroids and may be amplified for future forms of biotechnical enhancement (although this would need further empirical support). However, since our working assumption favors liberty, and cultural depictions of body images are protected as freedoms of speech, the legislative path most consistent with our presumptions of both freedom and harm prevention seems to consist of regulation and education. Specifically, social policies that support educational programs on positive body image perceptions and healthy physical fitness would counteract the negative aspects that physique enhancement images may have. An educational initiative would also encourage a cultural shift toward a more tolerant and realistic concept of diverse body types. In summary, the application of the harm principle to physique enhancement technology was useful in deciding which concerns were paramount, and it was useful in laying the foundations for the types of social policy and legal considerations we should consider enacting towards physique enhancement technology.

-Chapter 5-

Cognitive Enhancement: Smart Drugs and Mensa-Mice

'Cogito Ergo Sum.' (*I think, therefore, I am.*) -Rene Descartes

In the previous section, we applied the harm principle to technology that enhances the body; in this section, we will apply the harm principle to technology that enhances cognitive functioning of the mind. For this chapter, I will borrow Nick Bostrom's definition of cognitive enhancement. He stipulates that, 'Cognitive enhancement is the amplification or extension of core capacities of the mind through improvement or augmentation of internal or external information processing systems. Cognition refers to the processes an organism uses to organize information. These include acquiring (perception), selecting (attention), representing (understanding) and retaining (memory) information, and using this information to guide behavior (reasoning and coordination of motor outputs)' (Bostrom 2009).⁹³

Some ways of improving one's cognitive capacities are already available. For example, caffeine found in beverages such as coffee, tea, and soft drinks may improve concentration and test performance by about 5 to 10 percent.⁹⁴ Globally, many people improve their levels of alertness with drinking coffee at breakfast and enhance their mid-afternoon productivity with a cup of tea. Researchers in nutrition have found that consumption of Branched-Chain Amino Acids (BCAAs) enhances physical performance in athletics as well as mental performance.⁹⁵ Mnemonic devices and special studying habits

⁹³ Bostrom, Nick. 'Smart Policy: Cognitive Enhancement and Public Policy'. Forthcoming in *Enhancing Human Capacities*, eds. J. Savulescu, R. ter Muelen, and G. Kahane (Oxford: Wiley-Blackwell, 2009)] w/ Rebecca Roache

⁹⁴ Wikler, Daniel. 'Paternalism in the Age of Cognitive Enhancement: Do Civil Liberties Presuppose Roughly Equal Mental Ability?' in 'Human Enhancement', edited by Nick Bostrom and Julian Savulescu. 2009.

⁹⁵ E. Blomstrand, P. Hassmén, B. Ekblom and E. A. Newsholme. 'Administration of branched-chain amino acids during sustained exercise — effects on performance and on plasma concentration of some amino acids.' *European Journal of Applied Physiology and Occupational Physiology*. Springer Berlin / Heidelberg. Volume 63, Number 2 / August, 1991

could be said to enhance a person's intelligence and ability to process and remember information. Dietary supplements that contain the herb Ginkgo Biloba have been used for centuries, and are purported to improve memory and concentration. Finally, we all know about the favorable effects that education in conjunction with getting a 'good night's sleep' can have on mental acuity and exam performance.

In addition to 'natural' methods of improving mental capacity, biomedical technology holds the potential for treating cognitive disease and enhancing our minds and thought processes. Consider, for example, research designed to discover new treatments for dementia. In 2002, dementia affected approximately 3.4 million people aged 71 and older in the United States, of whom, 2.4 million had Alzheimer's disease (B. L. Plassman et. al).⁹⁶ Genetic and pharmaceutical interventions offer the possibility for treating and preventing dementia-related disorders, but also raise the possibility of cognitive enhancements. These treatments may cause a healthy person to have cognitive improvements, such as the ability to concentrate for prolonged periods of time, or increase their musical, artistic and mathematical skills. We can grant that the therapeutic aspects of these treatments raise little moral debate. The suffering of dementia patients and their family members is tremendous, and the number of people affected by dementia is estimated to increase dramatically in the coming years. However, the non-therapeutic use of these treatments would be more controversial. For example, geneticists and neurobiologists at Princeton University have been able to modify the genes of mice so as to improve their working memory and problem solving capacities. The cognitive tasks that have been improved by adding the NR2B gene to the mouse genome

⁹⁶ B.L. Plassman, K.M. Lang, G.G. Fisher, S.G. Heeringa, D.R. Weir, M.B. Ofstedal, J.R. Burke, M.D. Hurd, G.G. Potter, W.L. Rodgers, D.C. Steffens, R.J. Willis, R.B. Wallace. 'Prevalence of Dementia in the United States: The Aging, Demographics, and Memory Study'. *Neuro-epidemiology*. Vol. 29, No. 1-2 2007.

include spatial learning, object recognition, and learning speed.⁹⁷ That it is possible to use gene therapy to significantly improve the cognitive capacities of mice does not necessarily entail that gene therapy on humans can yield similar results in a safe manner. However, many scientists believe that genetic manipulation for enhanced cognitive capacities remains a possibility for humans.⁹⁸ Given enough advancement over time, genetically engineered cognitive enhancement in humans will likely become a reality.

Moving from a futuristic viewpoint to a current reality, biotechnological innovations have created a class of cognitive enhancements that enjoy popular use: pharmaceuticals. For disorders such as Attention Deficit Hyperactive Disorder (ADHD) and narcolepsy, pharmaceuticals have been designed to therapeutically improve concentration (Ritalin) and wakefulness (Modafinil). Many people afflicted with ADHD and narcolepsy can benefit from taking these drugs. However, these drugs have been found to provide additional benefits to healthy people. Healthy college students, professionals, and academic scientists have, in increasing numbers, begun using these drugs in order to increase their wakefulness and improve their concentration beyond their normal limits. Large numbers of college students cramming for exams have admitted to the illicit use of prescription medications for ‘brain enhancement’.⁹⁹ With the pressure to publish and acquire research funding, professional academics have also admitted to using prescription medications so as to improve their productivity. Indeed, a survey that was conducted online by Nature Magazine found that out of 1,400 scientists, engineers, and academics, 20 percent of them had admitted to using pharmaceuticals for non-therapeutic reasons and for enhancing cognitive

⁹⁷ BBC News, ‘Genetic Engineering Boosts Intelligence’. Sci-Tech section, Wednesday, September 1, 1999

⁹⁸ Ya-Ping Tang, Eiji Shimizu, Gilles R. Dube, Claire Rampon, Geoffrey A. Kerchner, Min Zhuo, Guosong Liu & Joe Z. Tsien. ‘Genetic enhancement of learning and memory in mice.’ *Nature* 401, 63-69 (2 September 1999)

⁹⁹ Carey, Benedict. ‘Brain Enhancement is Wrong, Right?’. *The New York Times*. March 9th, 2008.

functioning.¹⁰⁰ This newfound use of biomedical technologies for improving healthy individuals' cognition gives rise to an active debate over both the ethics and politics of cognitive enhancements. In what ways could cognitive enhancement result in harming others, and what legislative measures would need to be taken to avoid or minimize such harms?

In this section, I will discuss two possible ways that cognitive enhancement might be said to have harmful effects on others. One is the use of pharmaceuticals to enhance concentration and productivity, which raises a question about harm through unfairness. Would the widespread availability of cognitive enhancement be unfair to those people who do not wish to make use of cognitive enhancement? The other is that genetic modification on human brain functioning might yield an entire class of smarter people which may threaten the civil liberties of the unenhanced class. To address the first type of harm, we must examine whether it is unjust to introduce a new technology (i.e. smart drugs) into a society where individuals would be faced with a predicament: either take the drugs, or accept whatever disadvantage would result from abstaining. To address the second type of harm of genetic alterations on cognitive functioning, we should examine whether civil liberties would be threatened due to vast inequalities in cognitive capacities between the enhanced and the unenhanced. Threats to civil liberties always carry the potential for unjust set-backs of the interests of others (namely, the people whose civil liberties are threatened or violated).

Smart drugs and the pressure to conform

¹⁰⁰ Monastersky, Richard. 'Many Academics Use Drugs to Enhance Their Brain Power, Survey Suggests'. The Chronicle of Higher Education. April 10, 2008.

Suppose it could be confirmed that the use of Adderall and Modafinil for cognitive enhancement purposes is safe and effective. We might compare such hypothetical categories of drugs with the current brands of over-the-counter medications for treating headaches or cold symptoms. We should now ask whether the legalized use of smart drugs will cause harm to others in society.

Opponents of smart drugs might argue that the legalized use of pharmaceutical cognitive enhancement is morally wrong because it places individuals in an unjust predicament: either consume the drugs and reap the benefits of enhancement, or abstain from the drugs and risk intellectual and professional disadvantages. The introduction of smart drugs would lay unfair pressure on people who do not want to use these drugs. Non-users would be exposed to disadvantages that would not have been there had the drugs not been legally available for use by everyone, such as the inability to compete with smart drug users in the workforce. The harm that is incurred is a wrongful set back to the welfare interest of others, namely, to be able to exercise free choice without external duress or coercion, whether it be explicit (as in physical force or duress) or implicit (as in the phenomenon of being pressured to conform, which is being considered here).

Although this line of reasoning may carry *prima facie* force, my view is it is flawed. We cannot legitimately invoke the harm principle so as to ban the use of cognitive enhancement drugs on these grounds. There are two main reasons why this argument against smart drugs fails: First, the argument would rule out, as permissible, a great many means by which people could gain what we would otherwise consider to be an unfair advantage. Second, this argument relies on the false assumption that introducing new technology like

smart drugs into society results in people reluctantly taking the drugs due to coercion or duress.

The first reason why the opponent's argument against smart drugs fails is because this argument entails that nearly any method by which one person could gain an advantage over another is unfair and harmful. More specifically, this argument would lead to the unintuitive conclusion that many methods of enhancement that we normally accept to be fair turn out to actually be unfair and harmful. For example, drinking coffee can help someone stay awake and alert. During periods of prolonged concentration or study, a person who drinks coffee could gain an advantage over someone else who does not drink coffee. If we are to adopt this argument for banning smart drugs due to unfair advantages and the resultant pressures to conform, then we must also ban coffee drinking for the same reasons. After all, not all students or professionals wish to withstand the bitter taste of coffee, and some would prefer to abstain from coffee drinking on the whole. But if coffee drinking is permitted for everyone who wants to reap the benefits of coffee drinking, those who do not want to drink coffee in the first place will be faced with the dilemma of either consuming a vile-tasting beverage or accepting a competitive disadvantage. For obvious reasons, this conclusion is unacceptable.

Drinking coffee would be just one of the many different methods of improvement that would be condemned by this argument, and few reasonable thinkers should accept this conclusion. There seems to be no reason to re-adjust our intuitions about the acceptability of the advantages that can be gained from caffeine consumption, eating a healthy diet, exercising, getting plenty of sleep, studying for exams, and wearing socially acceptable clothing. All of these measures can offer various degrees of advantages, but we would not

think those who would rather abstain would be ill-treated or harmed by a society that allows that the use of these measures. An argument against the use of smart drugs that relies on the premise that some people would be pressured to conform or be left to an unfair disadvantage would seem to also prohibit many of the beneficial means of improving ourselves that are not only permissible, but also necessary for pursuing our goals. It is a reaffirmation of individual liberty to pursue goals by making choices about whether to drink coffee, study for an exam, or wear fashionable clothing. To claim that having options for improving our capacities is unjust to the individuals who are reluctant use those options is to ignore the benefits of liberty and the benefits that are gained by those who do take advantage of those options for improving cognition. Without specifying another reason for why the use of smart drugs (assuming they are safe to use) is harmful, this argument against their use yields unacceptable results.

Nor would the introduction of smart drugs into society coerce those who did not wish to use smart drugs to become users. Coercion, as it is properly understood, takes two forms. Feinberg describes these two forms of coercion as direct coercion and coercion by threat. Of these two forms, he writes that coercion can be ‘...direct forcing or preventing, such as by prodding with bayonets or imprisoning, and threat of harm clearly backed up by enforcement power. In cases of coercion via threat, there is a sense in which the victim is left with a choice. He can comply or he can suffer the (probable) consequences. But if the alternative to compliance is some unthinkable disaster—such as the death of a child—then there is really no choice but to comply’ (Feinberg 1973, pg. 8). The introduction of smart drugs into society would not coerce anyone in either of these two ways. Non-users would not be poked by bayonets and forced to consume the smart drugs, nor would it seem that the abstainers

would be faced with any threat characterized by the ‘comply or face disaster’ scenario. The mugger who presents his victim with the option of either handing over money or dying coerces his victim into complying when his victim reluctantly hands over his wallet.

Applying this understanding of coercion to the case of smart drugs, no such threat or disaster exists. Rather, more liberty is gained in this situation, whereas coercion by threat always involves the limitation of liberty. The mugger limits his victim’s options greatly when he proclaims, ‘Your money, or your life’. Those students and professionals who do not wish to drink coffee for enhancement are not threatened to conform to coffee drinking, and their options are not further limited. Coffee drinking that is made available to everyone produces an environment in which yet another option is presented to everyone. Working under the assumption that smart drugs could be made to be reasonably safe, the introduction of such drugs would likewise offer more options to everyone who desires to enhance their cognitive capacities. Those individuals who would rather not consume the drugs would neither be prodded with bayonets nor imprisoned for their choices, nor would they be threatened in order to elicit compliance. It is for these reasons why the introduction of smart drugs would not, on its own, set the stage for coercion (and harm) to be suffered by those who do not wish to make use of the drugs.

It might be objected that people would also lose options if smart drugs were introduced into society. Non-users lose the option of refraining from drug use without being put a disadvantage. Limiting peoples’ options in this way could therefore be unfair. The response to this argument would be to point out that it would be unfair of me to prevent everyone else from drinking coffee, taking smart drugs, and studying for exams just because I do not wish to engage in these activities. If I do not want to take advantage of some type of

enhancement that everyone else can make use of, I have that option of abstaining. However, I do not have the option of preventing others from using that enhancement merely because abstaining has put me at some disadvantage. Injustice does not result from making the enhancement available to everyone; rather, injustice results from demanding that everyone be prevented from choosing to use the enhancement.

Cognitive enhancement and the threat to civil liberties

In this section, I will focus on the concern that proliferation of drastic cognitive enhancement technology may threaten the civil liberties of individuals in society who may not have ready access to the enhancement, or those individuals who choose not to enhance themselves. Unequal access to cognitive enhancement could lead to threats to the civil rights/liberties of the unenhanced at the hands of the enhanced.¹⁰¹ Indeed, Daniel Wikler has argued that assuming 1) cognitive enhancement technology would be accessible to a majority of the population with a minority not being able to use the enhancement; 2) the cognitive enhancement would create a significant disparity in intellect between the ‘normals’ and the enhanced; 3) the cognitively enhanced majority would be in a better position to make decisions for the ‘normals’ in the same way that we ‘normals’ currently make decisions for the mentally incompetent, then we can conclude that cognitively enhanced beings would have a duty to treat the unenhanced (normals) in a paternalistic manner which would translate into a loss of civil liberties / rights.¹⁰² Wikler suggests that this line of reasoning is cause for serious concern when one discusses the normative implications of significant cognitive

¹⁰¹ For examples, see Walter Glannon’s ‘Bioethics and the Brain.’ Oxford University Press, 2007, and also Wikler, Daniel. ‘Paternalism in the Age of Cognitive Enhancement: Do Civil Liberties Presuppose Roughly Equal Mental Ability?’ in ‘Human Enhancement’, edited by Nick Bostrom and Julian Savulescu. 2009.

¹⁰² Daniel Wikler, Ibid.

enhancement and societal dislocation. I share Wikler's worry, which can be understood in terms of harm.

According Wikler's argument, the unenhanced would be appropriately subjected to paternalism by the enhanced majority in a similar way in which persons of normal intellect now view and treat mentally incompetent persons who '...do not have the full status of free citizens, sovereign in their own affairs and sharing equally in general governance' (Wikler 351). The cognitively enhanced would possess superior intellectual capacities than the unenhanced could obtain. They would be better decision-makers, would possess more information in a single thought, would have the ability to recall vast amounts of data, and would be less prone to making mistakes. In restricting the civil liberties of the unenhanced, the enhanced majority would be 'protecting' the unenhanced from their own poor decisions. Therefore (so the argument would go), the enhanced majority would be in a position to treat the unenhanced paternalistically, and should do so in the same way that those of us with normal intelligence should paternalistically make certain decisions for the mentally incompetent. As the mentally incompetent now have surrendered civil liberties and civic status, so, too, will the unenhanced 'normals' of the world of tomorrow.

The effects of this scenario certainly concern the harm principle. The harm principle, as a primary legislative tool, allows us to recognize and then focus on important issues, like paternalism. The civil liberties that we all enjoy currently (i.e. the right to vote in a democracy, make decisions about where we want to go and when, freedom to choose an occupation, etc.) constitute a network of both welfare and ulterior interests that each of us possesses. Not only do people of normal competence enjoy and desire these civil liberties, but they also have real interests in maintaining these liberties and seeing that they flourish.

In Chapter Two, I found that welfare interests are those sorts of interests that make possible the pursuit of any other ulterior interest, and a set-back to any of our welfare interests can have disastrous effects on our well-being. Should cognitive enhancement technology create a society in which those of unenhanced intelligence would lose the civil liberties which we currently enjoy, this loss would set back those interests (welfare and ulterior) that we have attached to the free exercise of those civil liberties.

However, for set-backs to the interests of others to be harmful, the set-backs must also be wrongful or unjust. Given the circumstances, would it be *unjust* for the cognitively enhanced to limit the civil liberties of the unenhanced minority? In the rest of this section I will attempt to address this question and the related worry of whether it will actually come to be that the enhanced majority will paternalistically restrict the civil rights of the unenhanced minority.

Since I am working under the presumption that basic welfare interests include an interest in freedom of choice, the burden would shift to those who are in favor of pronounced cognitive enhancements to provide non-arbitrary reason to justify the potential paternalism that would result. An assumption that proponents invoke is that the cognitively enhanced will be in a better position to make decisions for the un-enhanced about how they should live their lives. But, as I will argue, enhanced cognitive capacity in the form of vastly improved intellect (memory, reasoning abilities, spatial reasoning, verbal intelligence, etc.) does not guarantee better judgment and wiser decision-making with respect to how other people (the unenhanced ‘normals’) should and must live their lives. High IQ does not seem to correlate well with the ability to make better decisions for people with normal IQs.

Moreover, even if, in the very far future, some form of cognitive enhancement would bestow on the user the ability to truly make better decisions for the unenhanced, there are still solid reasons to resist paternalism. One reason can be found in the Millian argument, which holds that each individual knows best her desires and values, is most interested in these desires and values, and knows what courses of action can lead to fulfilling those aspirations and goals. The individual is the best judge in regards to her own good.¹⁰³ Another reason against paternalism consists in a direct philosophical defense of personal autonomy that posits the independent value of self-determination, as per the ideas of philosopher Alan Goldman. If these reasons to resist paternalism are good reasons, then this would suggest that those with enhanced cognitive capacities do not have a legitimate and non-arbitrary justification for constraining the civil liberties of the unenhanced. I will conclude that it would be unjust for the enhanced to constrain the civil liberties of the unenhanced, and hence, the unenhanced would be harmed. But first, let I will take a closer look at each of these claims.

In the Millian argument, one should favor liberty as opposed to the ‘tyranny of the majority’¹⁰⁴ because each individual, in general, is the one who is most familiar with his or her own desires, wants, goals, and aspirations. Indeed, as observed in Chapter Two, personal autonomy and freedom of choice are prime examples of basic welfare interests. Without recognizing these interests as basic welfare interests deserving of protection, the pursuit of any other interests becomes nearly impossible. Of course, this reason in favor of liberty would not be without exceptions. There exists some level of cognitive capacity below which such a familiarity with ones’ own goals and desires does not entail a capacity to make

¹⁰³ See John Stuart Mill’s ‘On Liberty’, Ibid.

¹⁰⁴ To borrow from the colorful vernacular of J.S. Mill’s ‘On Liberty’. Ibid.

decisions that would actually advance those goals and desires. Children and the severely mentally handicapped, for example, would be exempt from this line of reasoning. With this caveat in mind, we recognize that experiences are personal, and that no one can truly share an experience. We may empathize with one another, enough so that when one person becomes ill and experiences suffering, the other, too, might feel badly and regretful about the one's misfortune. One person's welfare interests can be connected with the well-being of another's. In these cases, when one person suffers, the other's interests in the well-being of the one who suffers are set back or damaged. However, the one experiencing is the only one who can experience her experiences, is most aware of her own values and desires, and is most interested and invested in her own experiences. What happens to me has more of an impact on me than it does on others. A set-back to my welfare interests will generally harm *me* more than it may harm my family members. In Chapter Four of 'On Liberty', John Stuart Mill eloquently writes that,

'...neither one person, nor any number of persons, is warranted in saying to another human creature of ripe years, that he shall not do with his life for his own benefit what he chooses to do with it. He is the person most interested in his own well-being, the interest which any other person, except in cases of strong personal attachment, can have in it, is trifling, compared with that which he himself has; the interest which society has in him individually (except as to his conduct to others) is fractional, and altogether indirect: while, with respect to his own feelings and circumstances, the most ordinary man or woman has means of knowledge immeasurably surpassing those that can be possessed by anyone else.' (Mill, *Ibid*).

Individuals of normal intellect and cognitive functioning have the most vested interests in their own lives and are most aware of what suits their own needs. For these reasons, they are in the best position to decide for themselves their desired life. Others, who have enhanced cognitive capacities, such as in the form of higher IQ, better memory, or reasoning skills, still cannot rise to the level of knowledge and vested interest that an

individual of normal intellect can possess of herself. Person A with IQ of 120 has more of a vested interest in whether to take job X or job Y than does person B who will not be affected in any manner by A's career decision but happens to have an IQ of 180. The consequences of person A's decision fall on person A with a very heavy impact, especially as they relate to her happiness, her unhappiness, her personal relationships, and her welfare and ulterior interests. Person B cannot claim to having as many welfare interests that hinge on which job A decides to take. As a result, the most B can legitimately do is offer friendly advice to A about the decision to be made by A. Person B cannot rightfully choose for A because A is the one whose welfare interests are at stake, not B's.

Similarly, person A normally has the most access to his own desires, goals, fears, situation, and values. Person B, even if she read extensively about A, cannot obtain the sort of personal understanding about these things that A will always know. The closest that B could possibly get toward gaining information about A's inner most desires and values would be through A's reporting such information to B. Even if B is able to better articulate the content of A's desires or values and then report on what might be a good decision for A to make, A still has the most direct access to his own desires and values. Even if B would have access to external information regarding jobs X and Y that may have an influence on A's decision, B would only be able to offer that information to A so that A could assimilate it into his own desires, values and circumstance. This external information, to which a 'smarter' person may have more ready access, constitutes only a *part* of the equation for an individual to decide on what particular course of action she should take. The other relevant parts are his or her own personal circumstances, and values and desires that only he or she

can experience in the fullest.¹⁰⁵ Therefore, because an individual person of normal intellect can usually be said to be in the best position to decide for herself the course her life may take, we should conclude that the cognitively enhanced cannot legitimately lay claim to this position of decision making on the behalf of others (the unenhanced). Self-interest and self-knowledge possessed only by the individual are beyond the reach of the higher intellect of others. The loss of civil liberties and individual sovereignty that the unenhanced would suffer by the paternalism of the enhanced would constitute wrongful set-backs to the interests of the unenhanced.

Not only does an individual have privileged knowledge about her own desires and circumstances, but the decisions that she makes in these regards have consequences that ultimately affect *her* well-being. This offers two additional reasons in favor of individual autonomy. First, since the consequences of my decisions mostly affect me, I have an incentive to make good decisions. If I were to make decisions on Jones' behalf, and the consequences of those decisions effect Jones, I have less incentive to make the best decisions for Jones (despite even the best of intentions). Second, it would not seem fair that Jones should suffer because I made a bad decision on Jones' behalf. Fairness requires that the unfavorable consequences of mistakes should fall on the one responsible for the mistakes, not on someone else. These two considerations offer additional reasons to prefer letting people make their own decisions.

I also question the legitimacy of paternalism being actualized in the era of cognitive enhancement. Intellectual discrepancies in current culture already exist, and we can model

¹⁰⁵ It might be argued that special cases may arise: a psychotherapist may guide her patient to one course of action over another, and in extreme cases, use the state's power to constrain the liberty of her patient. These would be exceptions rather than the rule, and in many cases the psychotherapist still does not decide for the patient. Civil liberties are not therefore threatened.

what may happen in a future of cognitive enhancement by comparing contemporary geniuses with intellectual ‘normals’. Throughout history, there have been individuals who were labeled as geniuses. Typically, IQ has been the tool by which psychologists measure intelligence, and the aspects of cognitive functioning that can be tested typically involve spatial reasoning, verbal and quantitative skills, memory, and general problem-solving skills. By observing past and present geniuses, we are offered a glimpse into what the capabilities of the cognitively enhanced majority would embody in a futuristic scenario proposed by Wikler and other commentators. For example, William James Sidis lived from 1898-1944 and had what has been called an intellect beyond measure. According to some psychologists, his IQ could have been estimated to be around 300; he entered Harvard at the age of eleven where he lectured on advanced mathematics and was able to learn a foreign language in a single day.¹⁰⁶ A more modern day example of ‘enhanced’ intellect would be Christopher Langan, an American bar-bouncer/farmer whose IQ was accurately measured by psychiatrists to be 195.¹⁰⁷ In addition to these examples of what cognitive enhancement might enable, the history of philosophy, physics, and mathematics demonstrate many contributions that were made by brilliant minds. However, when we stop to think about what sorts of tasks the most brilliant people were good at, the first thought that comes to mind is not making the best decisions and judgments for how less cognitively gifted people should best live their lives. We recognize that the people with the highest IQs are very good at solving mathematical problems, writing great works of literature, and creating inspiring works of art. In fact, they are sometimes the *best* at what they do. But we typically do not associate such talents (even at the top end of the percentile) with the advanced ability to decide how others with ‘normal’

¹⁰⁶ For biographical information, see Amy Wallace’s ‘The Prodigy: A Biography of William James Sidis, America’s Greatest Child Prodigy’. Dutton Adult; 1st edition (June 26, 1986).

¹⁰⁷ See the article by Michael Sager, ‘The Smartest Man in America’, Magazine: Esquire, November 1999.

intellect would best live their lives. Extraordinarily gifted people seem to present us with very little evidence to think that a superior intellect is positively correlated with being able to make decisions about how others with ‘normal’ intelligence should live their lives. A majority population with a super-high IQs would do very well with complex mathematics, solving complex mazes and learning foreign languages. But it is not clear that the super-smart majority would rightfully be in a position (*due* to their intellect) to suspend the civil liberties of the unenhanced minority so as to make ‘better life choices’ for them. Since there is no clear evidence to suggest that those with the highest IQs are in the best position to decide how others with normal IQs should best live their lives, we can conclude that a proposal in favor of the paternalistic model described here is not justified. Therefore, paternalism exercised by the cognitively enhanced would constitute unjust interventions in the liberty of others.

I do not mean to imply that intellect is unrelated to the ability to best decide how to live one’s life and in determining the rightful bounds of civil liberty. The cognitively competent can make a just claim to paternalistically look after the well-being of mentally incompetent persons, and thereby restrict the civil liberties of the mentally incompetent ‘for their own good’. Persons suffering from dementia, moderate and severe degrees of mental handicaps, and pervasive mental illnesses, like untreated psychosis, are simply unable to make decisions for themselves due to impaired judgment, pathological reasoning, or the inability to learn certain skills or concepts. Casual tasks such as earning a living, feeding oneself nutritious food, getting dressed in the morning, and avoiding everyday dangers become difficult or impossible to navigate for persons who are cognitively incompetent. There is a minimum threshold of intelligence required for exercising all of one’s civil

liberties. This threshold roughly separates those who can take care of themselves and those who need assistance. The disparity in intellectual capacities between the incompetent and the competent justifies paternalism because the cognitively incompetent have fallen below this threshold. However, we cannot conclude from this justification that the cognitive disparity seen between those who are cognitively enhanced and those of normal intelligence would warrant a similar regime of paternalistic restriction. Instead of accepting the view that merely a large enough gap between two IQs warrants paternalism, the view that should be accepted here is one that demarcates a threshold of cognitive functioning below which would justify and require paternalistic intervention.

Consider Jack who is cognitively impaired; his IQ has been measured to be 40.¹⁰⁸ The difference between his IQ level and a 'normal' IQ is around 60 points. One can reasonably say that Jack does not have the capability of making certain decisions for himself. The state and his immediate relatives would need to act on his behalf in regards to his possible employment opportunities, the living conditions he can thrive in, and when and where he can travel. Jack would be impaired in appreciating the consequences of his own actions. He may not comprehend the significance of certain behaviors, and he might have difficulty understanding the connections between actions and consequences. Further, he might be unable to adequately avoid decisions that would lead to personal injury due to his inability to comprehend how certain actions might translate into disastrous results with grave injuries. Not only do these concerns determine the threshold of cognitive competence, but they also explain why we cannot hold persons like Jack fully accountable for their actions. Therefore, others with normal cognitive capacities would need to decide on 'what's best for

¹⁰⁸ According to the DSM-IV, one of the necessary conditions on a diagnosis of mental retardation is that the IQ be below 70. To be sure, IQ score is not the only diagnostic criteria considered for a diagnosis of cognitive impairment---adaptive behavior being another criterion that is considered.

Jack' in a paternalistic model. Accordingly, his civil liberties would need to be constrained. Now consider Jill, who has an IQ of 120. The difference between her IQ level and the IQ level of a cognitively enhanced society of individuals could very well be 80 points, just as was the case in Jack's scenario. However, the cognitively enhanced majority with IQ's measuring in the low 200's are not necessarily in a better position to decide for Jill how she ought to live her life, where she should live, what career would be suited for her, and where and when she can travel. Jill has these abilities already because she is cognitively competent to make these decisions for herself, whereas Jack plainly lacks these abilities.

There is an important difference between the situation of Jack living in the present and the situation of Jill living in the age of cognitive enhancement. In the former case, when Jack and individuals like him are informed of the consequences of various courses of actions, they may still have difficulty in comprehending how this information can be applied to everyday life. They may lack the ability to sufficiently reason. In Jill's case, should she be approached by cognitively enhanced individuals who can advise her about her decisions and the relevant consequences, she can comprehend the meaning of these consequences, understand how to apply means-end reasoning to achieve her goals, and ultimately be held accountable for her actions.

An apt example from American literature, John Steinbeck's novel, *Of Mice and Men*, tells the fictional story of two migrant farmhands, George Milton and Lennie Small, who live during the Great Depression. Lennie was a strong but mentally disabled friend of George, who constantly needed George's guidance and supervision. George's attempts to explain to Lennie the potentially grave consequences of Lennie's pursuit of fulfilling his desires were ineffective. Lennie simply could not remember, nor could he comprehend, much of what

George explained to him. George could have laid out all of the relevant information about each decision Lennie could possibly make, yet Lennie would still fail to understand the gravity of certain consequences. For example, Lennie did not comprehend that killing Curley's wife was bad because her life was abruptly and tragically ended. Instead, Lennie felt that her death was bad because Lennie anticipated George's angry reaction to what Lennie had accidentally done. He would similarly fail to be able to act in his own best interests, when he clearly understood his interests in terms of his own personal goals. Lennie's lifetime goal of obtaining a farm that could house rabbits for him to pet was simultaneously undone by nearly every short-term decision that he made without George's forceful interventions. Lennie could not apply sufficient practical reasoning to obtain anything but his most immediate and primal ends. Lennie's failure to comprehend the consequences of certain decisions and his consistent inability to reason suggests a real difference between the cognitively impaired and normally functioning adults like Jill.¹⁰⁹ This difference justifies paternalism in for those who have sufficient cognitive impairments, such as in the cases of Lennie and Jack.

In Jill's situation, such a difference between her and the cognitively enhanced does not exist. Unlike Lennie and Jack, Jill can still comprehend the gravity of certain consequences, apply practical reasoning, and be held accountable for her decisions. A cognitively enhanced person who might be able to predict more consequences than Jill is only justified in explaining to Jill what those consequences might be and how likely they are to occur. The cognitively enhanced might similarly be justified in explaining various means that Jill may have to achieve her ends. However, Jill retains her right to make her own decisions because she has the relevant capacities that Lennie and Jack lack. Where George is

¹⁰⁹ See George Steinbeck's 'Of Mice and Men', 1937.

justified in limiting Lennie's decision-making, the cognitively enhanced are only justified in informing Jill of more information. Lennie's deficiencies justify George's paternalism, whereas Jill's inferior, though competent, cognitive abilities can only permit the cognitively enhanced to explain and offer advice, not to decide on her behalf.

Jill's civil liberties are not justifiably limited by the cognitively enhanced because:

1) Jill, in general, has the most interest in her own decisions and knows her own values and circumstances best. 2) Cognitive enhancement does not bestow the decision-making skills needed for being in a position to make better decisions for Jill (it merely makes one better at certain skills in memory, mathematics, language, mazes, etc.). 3) Jill has the full capability of making her own decisions, whereas persons like Jack and Lennie lack this capability.

Paternalism is only justified in cases when certain abilities are absent. Jill's abilities are intact, so the comparative reasoning between Jack's situation and Jill's situation cannot be made with regards to paternalistic restriction of civil liberties.¹¹⁰

Finally, even if another person could make a better decision for Jill, there might be other reasons why limiting Jill's liberty by treating her paternalistically is not justified. Alan Goldman, in 'A Refutation of Medical Paternalism', raises the point that autonomy is a value that should be respected even in circumstances where someone or something else (perhaps a

¹¹⁰ Now it might be objected that the cognitively enhanced may be better at organizing the relevant facts and values associated with any given decision than a person of normal intellect is capable of doing, and therefore, since they are better at these skills, it puts them in a better position to make decisions for others. My reply: Even if this were true in some instances, it still does not negate the Millian argument that an individual has most at stake in the decisions she makes for herself. Moreover, knowledge of facts does not entail knowledge of another's desires, values, and circumstances in the intimate manner that only the owner of those desires and values can have. Further still, because normal intellect entails decision-making capabilities, the cognitively enhanced would only be justified in offering advice containing the insight and facts that such an intellect may afford---but this is a *long leap* from thereby justifying paternalism and the restriction of civil liberties. At best, the cognitively enhanced may actually increase the liberty of the unenhanced, should such an increase be materialized in the form of making more informed decisions for oneself.

computer) is in a better position to make a decision for an individual.¹¹¹ Autonomy has value that can trump even the possibility of obtaining a better outcome, even if that better outcome entails giving up one's autonomy. Jill, who has the relevant capacities to comprehend her own decisions, values the self-determination that is associated with being able to make decisions. Even if the cognitively enhanced could make decisions for Jill that would yield more favorable outcomes for Jill, it would not follow that the cognitively enhanced have a right to decide on Jill's behalf. The right to decide what course of action Jill should take ultimately belongs to Jill, and no one else. In the end, Jill is the one who must ultimately live with the decisions she makes about how to live her own life. To return to Mill's stance on the matter, Jill is the one most interested in her own well-being. Jill's right to self-determination precludes the right for others to decide what is best for her.

If these reasons against paternalism are convincing, then we can conclude that Wikler's concern that the cognitively enhanced would have a duty to constrain the civil liberties of the non-enhanced would not be justified. The Millian argument and the limits of cognitive enhancement can provide good reasons to deny that the cognitively enhanced population would be in a better position to decide the fates of the unenhanced minority. I argued in Chapter Two that it is unjust for someone (or in this case, some group of people) to interfere with the liberty of another (or in this case, another group of people) when that interference in another's liberty is without justification or excuse, or is not due to fair competition. The conditions for the unjust treatment of another that are discussed in Chapter Two are met in this current example. Because there is no non-arbitrary reason for the enhanced to claim to be in a better position to make paternalistic choices on the behalf of the unenhanced, the restriction of the civil liberties of the unenhanced would be unjustified.

¹¹¹ See 'The Moral Foundations of Professional Ethics', by Alan Goldman, Rowan, and Littlefield, 1980.

The harm principle, then, is of special importance for recognizing the ways societal harm could occur with the implementation of drastic cognitive enhancement on a large scale. Approaching the problem of cognitive enhancement with the harm principle placed front and center allows us to focus on a most basic concern regarding the deployment of drastic cognitive enhancement throughout society. This concern was the unequal access to enhancement technology due to disparities in wealth and the possible implications of a paternalistic shift in society that may result from the divergent intellectual capacities between the enhanced and the unenhanced. The question of the restricted civil liberties that may occur as a result could then be filtered through the harm principle. It was established that a threat to civil liberties to cognitively competent (yet unenhanced) citizens would indeed be a set-back to their welfare interests. And finally, in the scenario in which a majority of the population has access to cognitive enhancement and a minority may not have access, the minority unenhanced would suffer *unjust* set-backs to their welfare interests in civil liberties should the cognitively enhanced majority exercise paternalistic power over the unenhanced.

Cognitive enhancement and social policy

Drastic cognitive enhancement brings the possibility for social injustice on a large scale. While some have argued that an enhanced majority of the population may have a duty to restrict the civil liberties of the unenhanced so as to arrive at the best decisions for the unenhanced minority, I have suggested that a curtailment of the civil liberties of the unenhanced minority would constitute a significant harm to the welfare interests of many. This knowledge can translate into shaping new social policies as science and medicine introduce new ways to improve our cognitive abilities.

Most of the debate over social policy will revolve around the following concern: ‘*The implementation of drastic cognitive enhancement will give rise to a threat to the civil liberties of the unenhanced (by the paternalistic rule of the enhanced majority)*’. Notice that this proposition takes the form of a prediction about what would happen if drastic cognitive enhancement is introduced into society. Therefore, the details of social policy that governs the deployment and use of cognitive enhancement will be determined by the extent to which this prediction comes to pass (in so far as preventing harm to others is concerned).

Assessing the exact probability of this prediction is beyond the scope of this thesis. Predictions of this type need to be addressed in terms of empirical data, which would either support or discredit such predictions. As of yet, there seems to be no evidence to think that a curtailment of civil liberties would in fact occur. What *is* relevant to the scope of this thesis is to roughly outline a tentative proposal consistent with our initial assumptions in favor of liberty and the harm principle. Since we lack a great deal of facts regarding what *would* happen if drastic cognitive enhancement technology were to become safe, effective, and available to a majority of the population, we should proceed with the development of cognitive enhancement with caution. This legislative path fits with a presumption of liberty that acknowledges the harm principle while recognizing the limits of our knowledge about the probability of future unjust paternalism and its corresponding harms.

The application of the harm principle to cognitive enhancement has identified a potentially harmful effect of drastic cognitive enhancement, and social policies that accompany this biotechnology must effectively address this harmful possibility in order to protect the civil liberties of everyone. My suggestion is to be sure that the following two basic social regulations be taken seriously:

- 1) Acknowledging the moral progress that has been made over human history, new policies must ensure that similar progress continues with the use of cognitive enhancement. The tremendous accomplishments in civil rights that have been obtained must never be undone by the unjust treatment committed in the name of misguided paternalism. Therefore, educational initiatives must accompany drastic cognitive enhancement to serve as a constant reminder of the importance of civil liberties. These educational initiatives need not be costly or reformatory, but would rather embody a shift in emphasis in lessons on history and in literature.
- 2) As cognitive enhancement technology becomes safe and effective, existing laws must continue to guarantee civil liberties to those who are cognitively competent. These laws would operate in accordance with the general relevant sentiments that suggest that higher than average IQ does not determine the right to make decisions for another where that capacity restricts civil liberties. Albert Einstein could not legally claim more clout in deciding how others should live their lives, and the cognitively enhanced would be unable to claim such a right either for the same reasons articulated here.

Guaranteeing basic civil liberties would be preferable to a legal guarantee to equal access to cognitive enhancement. As I argued, the set-back to our interests in basic civil liberties in this scenario would constitute an unjust set-back to welfare interests. However, it cannot be legitimately claimed that everyone has a welfare interest in having access to every new technology that arrives on the societal scene. A protection of civil liberties (and basic welfare interests in autonomy) takes priority over any supposed 'right' to be given or provided with any or all enhancement technology developed by science. Similarly, a

protection of basic civil liberties takes legal and normative precedence over any supposed ‘right’ to be provided with the newest cellular telephone or means of travel.

The harm principle and conclusions on cognitive enhancement

In the first section of this chapter, the harm principle was applied to important worries that have been often expressed in discussions of cognitive enhancement. In regards to the legalization of ‘smart drugs’ to enhance academic and professional performance, I argued that harm to those who would otherwise not want to use the drugs but may be coerced into using the drugs would *not* occur. This conclusion was supported by establishing that an argument against legalization of smart drugs entails that we adopt unintuitive bans on many other methods of improvement. Furthermore, this argument against smart drugs relies on a misuse of the term ‘coercion’. Finally, the problem of social inequality and the threat to civil liberties associated with unequal access to cognitive enhancements was addressed with the harm principle in mind. It was determined that any loss in civil liberties that would be suffered by the unenhanced minority at the rule of the enhanced majority would constitute a serious harm to the welfare interests of the unenhanced minority. Two main arguments were suggested to support this conclusion: the Millian argument against paternalism and an argument that pointed to the limitations accompanied by enhanced intellect in regards to making decisions on others’ behalves. These findings suggested that a social policy governing the implementation of cognitive enhancement would need to emphasize education on civil rights and laws that would solidify the civil liberties of the unenhanced.

-Chapter 6-

Choosing the Genotype of our Children: Designer Babies

“If there is anything that we wish to change in the child, we should first examine it and see whether it is not something that could better be changed in ourselves.” —Carl Jung

In this chapter, I will relate the harm principle to the technology that would allow for genetically enhancing children. Through various methods of embryo selection and genetic modification of an embryo, couples who would like children may have the option of selecting for certain genetic traits to be expressed by their child as they grow up and mature. I will argue that a reasonable interpretation of the harm principle applied to this category of bioenhancement yields at least two conclusions: 1) parents could harm their child by genetic enhancement when expectations accompanying the enhancement are not met and the child is harmed by negligence or abuse. 2) harm could be sustained on a societal level due to a trend toward hyperparenting, which could eventually lead to a harmful shift in how parents value their children.¹¹²

Genetic engineering, as it has been discussed thus far in this thesis, was confined to gene modification of adult human beings of presumably normal capacities. This section will examine how genetic engineering at the beginning of life determines the subsequent person's genotype. According to Peter Singer, there are currently several medical methods available to prospective parents who wish to conceive children whose genomes are 'preferable' to their own. These methods include pre-natal and pre-implantation diagnosis of a prospective mother's fetus or embryo. A fetus found to have 'undesirable' genetic traits can be aborted.

¹¹² This last point is similar in spirit to the worry expressed by Michael Sandel in his piece entitled 'The Case Against Perfection: What's Wrong with Designer Children, Bionic Athletes, and Genetic Engineering.' In 'The Atlantic', Ibid. My approach here will be to articulate this type of argument in terms of the wrongful set-back to the welfare and ulterior interests that children in society could suffer.

Alternately, an embryo that has tested positively for a desirable genetic trait can be implanted into the mother, while other embryos that did not meet the criteria would be discarded. In the future, it is likely that external genetic material could be safely and reliably ‘inserted’ into an embryo.¹¹³

As genetic intervention is practiced currently, the method of *in vitro* fertilization (IVF) allows prospective parents to create several distinct embryos outside of a mother’s body. This makes the embryos available for pre-implantation diagnosis (PGD), which can be used to test for the presence of harmful genetic diseases or favorable genetic traits.¹¹⁴ In the former case, genetic disorders like Tay-Sachs disease can be tested for, and if detected, the corresponding embryo can be eliminated as a candidate for implantation. This use of genetic intervention by the parents on behalf of prospective children would not enhance but would rather prevent diseases. In the latter case, as research into genetics progresses, various genetic traits which are responsible for eye color, physical height, aggressiveness, or other characteristics may one day be selected for in certain embryos. Some commentators have predicted that the extent to which a child’s genotype can be modified by any one of these interventions can vary from simple physical traits, like eye color and height, to complex traits like intelligence, personality, and emotional predisposition.¹¹⁵ Other experts, like Steven Pinker, do not believe that genetic engineering will be able to manipulate multi-faceted traits like intelligence and personality. Perhaps the complexity that goes into forming a person’s

¹¹³ Singer, Peter. ‘Parental Choice and Human Improvement’. In Rasko, O’Sullivan, and Ankeny (eds). ‘The Ethics of Inheritable Genetic Modification’. Cambridge University Press, 2006.

¹¹⁴ See Brock, Dan. ‘Is Selection of Children Wrong?’ In ‘Human Enhancement’ (eds) Nick Bostrom and Julian Savulescu. Oxford University Press, 2009.

¹¹⁵ See Lemonick, Michael D. ,David Bjerklie and Alice Park, and Dick Thompson, ‘Designer Babies’. Time Magazine, Jan. 11, 1999.

intelligence is beyond the reach of genetic pre-determination.¹¹⁶ But despite the fact that there is disagreement about the absolute limits of what genetic engineering can accomplish, there is little disagreement that genetic enhancement aimed at producing a specific genotype in one's child has already begun and will only progress as technology advances.

Two examples of how genetic engineering by parents can lead to harm

Two main contexts I will discuss in which genetic intervention on children could harm others: great expectations that could lead to negligence, and the potential for a societal shift in how parents value children. First, prospective parents might use genetic intervention to conceive a child who will grow up to do X. When the child does not meet the 'expectations' of the parents to do X, the child is treated unfairly in light of the failure to achieve X. The unfair expectations of the child could result in unhealthy disappointment and possibly harm through negligence or reckless parenting. Second, shifts in attitude about parenting might gradually undermine the healthy relationship that should be maintained between parents and their children on a larger, societal level. This objection to genetic intervention initiated by parents has been espoused by Michael Sandel. Here, I will develop it further as it relates to and follows from the harm principle. The key premise is that this type of harm *could* (but not necessarily) follow from genetic engineering given the following initial conditions: 1) Public misunderstanding of genetic determinism and 2) A perpetuation of the hyperparenting model in society. I conclude this chapter arguing not in favor of bans or restrictions on parental choice. Rather, I argue that a certain cultural attitude about parenting and educational programs should be emphasized in order to both preserve parental

¹¹⁶ See Pinker, Steven. 'Better Babies? Why Genetic Enhancement is too unlikely to Worry About'. The Boston Globe. June 1, 2003.

autonomy and help mitigate the harms that could follow from the pursuit of genetic enhancement.

Unmet great expectations and negligent parenting

To determine possible harms of parental genetic intervention, consider the following scenario: The Smiths, who are a married couple, wish to raise a child who is very athletic and excels in professional sports. Genetic predisposition for certain sports can have a tremendous effect on how far an athlete can progress (state, national, world, or Olympic level). In this scenario, medical science has progressed to the point where certain genes related to athletic ability can be safely and reliably inserted into an embryo. In the Smith's case, they decide that the genetic material that they will have introduced into their embryo will be genes responsible for inheriting long skeletal muscles along with a high proportion of fast-twitch fibers in the muscular make-up. They are told by doctors that these qualities in an athlete, all things being equal, will provide genetic predispositions that are highly favorable for athletic success. The Smiths give birth to a healthy child who, despite the desires and dreams of her parents, decides that competitive athletics is not to her liking and instead pursues a career as a concert cellist. As a result of her dreams of becoming a musician rather than an athlete, the Smiths become upset and greatly disappointed with their daughter who failed to live up to their hopes and expectations. Dan W. Brock articulates this concern when he writes that, '...there will be heightened expectations for the child's capabilities and performance in the relevant respects, and so in turn heightened disappointment when those expectations are not met. Since the child has been given the genetic endowment thought to be necessary for the enhanced capabilities and performance, some parents will no doubt blame the child for

failing to successfully or optimally exploit or live up to that endowment' (Brock 2009). This situation is a standard example in which the parental decision for genetic intervention could eventually lead to harming the child.¹¹⁷

To articulate the details of possible harmful treatment from parents to their genetically designed children, consider the following proposal: Parents harm their child in the context of genetic enhancement when such alterations later cause the parents to treat the child in a manner inconsistent with what is typically associated with sound parental care. Cases of mistreatment could either be the result of negligence, recklessness, or, in the gravest extremes, malicious forms of punishments. For example: Parents, A and B, decide to enhance their future child, C, by putting the embryo through some genetic modification procedure, X. From a physiological and medical perspective, we can assume that X is safe and reliable. Enhancement X turns out to be medically successful but upon maturity, C decides not to utilize the effects of X in the way that A and B had previously hoped, planned, and invested. C did not 'live up to the expectations of A and B'. As a direct result of C's decision not to take advantage of the effects of X, A and B fail to treat C in a reasonable manner consistent with the decent minimum requirements for the duties of the parents. It can be said that C is harmed when A and B fail to fulfill their respective parental duties due to either reckless or negligent practices.

Assuming that instances of harm are instances of wrongful set-backs to another's interests (as was suggested in Chapter Two of this work), children can be said to have welfare interests in being raised by parents who fulfill their respective duties. These duties would include offering a caring and loving environment where the psychological development of the child can be reasonably secured in a healthy manner. Not only do

¹¹⁷ To be sure, most cases of harm suffered by children here would be unintentionally inflicted by the parents.

parents have a moral duty to do their best to secure their child's basic welfare interests in physical needs, such as providing nutritious food and a reasonably safe environment, but parents also have a duty to secure a child's psychological and emotional-developmental health as well. Children rely on their parents for these needs because they are incapable of meeting these needs themselves due to cognitive and physical limitations. When certain minimum standards are not met, parents can be said to be negligent. It therefore becomes obligatory for the parents to supply these needs for their children. Moreover, because of a child's physical and cognitive limitations, the parents unjustly treat their child if they do not satisfactorily meet these needs for their child. Parents *wrong* their child when they do not meet the child's developmental needs because children are *owed* the satisfaction of these needs by their parents.¹¹⁸ Just as I may be harmed by my debtor who refuses to pay what is rightfully owed to me by him, a child is also harmed (her interests are unjustly set-back, damaged, or even doomed), when her parents do not meet her developmental needs which consist in psychological and emotional support in the form of unconditional love and healthy interaction. Since rights bestow certain entitlements to their possessors (that is, rights are claims that are backed by reasons to be treated in certain ways), and children have rights against their parents to fulfill their obligations, children are treated unjustly (their rights as children are violated) when parents are found to be negligent or reckless.

In the more serious instances of parents treating their children unjustly, negligence and recklessness may be the mechanisms by which harm could occur. We certainly do not search for merely imaginative scenarios in which parents with unreasonable expectations for their children to 'overachieve' are unjust to their children, since real world examples have

¹¹⁸ We should exclude here cases wherein the parent is unable to discharge such duties due to extenuating circumstances like abject poverty, physical disability, incapacitating mental illness, long-term imprisonment, and the like.

become almost cliché. Young elite gymnasts and figure skaters, who often are pressured and pushed by well-intentioned but overbearing (and possibly reckless) parents who become preoccupied with ‘winning at all costs’, can suffer great bodily injury and psychological harm. Lasting overuse injuries to joints and even eating disorders have been known to result from the ultra-high pressure sports environment that can be spurred on by parental expectations. Expectations from parents of young elite athletes (whether met or not met) has proven to be shockingly detrimental at times and, in rare instances, result in fatal consequences.¹¹⁹ And these dangers are not isolated to just elite athletics; great physical and mental tolls can be suffered by children in other areas of achievement. Parents who genetically engineer their children with such aspirations in mind run an especially high risk of losing sight of how to maintain healthy parent-child relationships in the midst of pursuing especially high achievement. When the welfare interests of children are damaged in these contexts due to neglect or recklessness on the part of parents, the children suffer harm as a result.

We should keep in mind that not all parents who choose genetic enhancement will necessarily harm their children. To illustrate, consider these two possible cases of genetic engineering: In Case A, the Smith family decides to genetically modify their embryo at time t1. Their daughter does not live up to their expectations in regards to the enhancement, and at t2 their daughter’s welfare interests are damaged by their chronic disappointment. In Case B, the Smith family enhances in the same manner as Case A, and their daughter does not live up to their expectations in regards to the enhancement. Instead of being disappointed, the

¹¹⁹ For a realistic documentation of the training of elite gymnasts and figure skaters, see Joan Ryan’s ‘Little Girls in Pretty Boxes: The making and breaking of elite gymnasts and figure skaters’. Grand Central Publishing, 1996. Eating disorders, self-destructive behavior, depression, and injuries include some of the more extreme consequences of pressure to live up to expectations that child-athletes frequently endure.

Smith family's support their daughter in her pursuits and provide the unconditional love that children need for their welfare interests to fully flourish. We can say that in Case A at t_2 , the daughter was harmed. In Case B, the daughter was not harmed by the parents, who fulfilled their parental duties. She could have been harmed in Case B if the results of B were to mirror Case A, but because this did not happen, the parents did not harm their daughter. In *both* cases, the parents had a choice between t_1 and t_2 in regards to how they would respond if their daughter chose not to exploit her genetic endowment. The way in which the parents decide to react to their daughter's decision to become a cellist instead of an elite athlete determines whether their daughter is harmed. Parents who choose to genetically alter their children but also foster a healthy relationship with their children when expectations are not met do not harm their children. Parents who genetically engineer their children without any expectations similarly do not harm their children if parental duties are fulfilled. It is when parents genetically alter their children due to unhealthy expectations, become unreasonably disappointed when expectations are not met, and damage interests through recklessness or neglect, that parents unjustly damage their children's welfare interests. Again, the point here is to make it clear that not all parents who intend to genetically enhance their children will necessarily go on to harm their children through negligence or malice. The distinction between harmful and benign effects will depend primarily on the intentions of the parents, which will guide the parents in how they raise their children in the midst of uncertain life paths.

Bioethicists Allen Buchanan, Dan W. Brock, Norman Daniels, and Daniel Wikler address the similarities between parents who improve their children through non-genetic methods and parents who might choose to enhance their children through genetic

engineering. In Chapter Four of their book, 'From Chance to Choice: Genetics and Justice', the authors consider the following question: is a parent, who decides to modify the genotype of her child, doing anything different than the parents who improve their children's capacities through non-genetic methods? They argue that there seems to be no principled distinction between a parent who modifies the genotype of their child and the parent who provides the child with a stellar and expensive private education. Both measures used by the parents serve the same functional purpose, which is to enhance the child's capacities. In the one example, the means by which this is accomplished is through genotypic modification. In the other example, the means take the form of environmental modification. Moreover, parents already shape their children's values at a young age, involve them in sports and extra-curricular activities that enrich their social and networking skills, and even decide (within reasonable bounds) the dietary practices of their children. An argument in favor of genetic engineering would point to these non-genetic methods of 'enhancement' to establish the following premise: Since these forms of non-genetic enhancement are thought to be morally acceptable, and we cannot draw any principled distinction between these methods and genetic methods of improvement, we therefore should also accept genetic engineering as legitimate means of improvement. This argument does not, on its own, show that genetic engineering is necessarily a good thing.

Grant, for the sake of argument, that we cannot make a principled distinction between non-genetic enhancement (education, training) and genetic enhancement (bio-engineering). This would not imply that non-genetic means of enhancing the capacities of children are always morally praiseworthy. It also would not imply that genetic enhancements are morally vindicated either. Non-genetic methods of improving the capacities of children can also lead

down a similar path of lofty expectations, parental disappointment, and harmful mistreatment of children who become failures in the minds of their parents. The harmful effects of disproportionate levels of parental disappointment are not a problem that is uniquely related to genetic engineering. Currently, there are parents who act on their disappointment when their children fail to meet expectations by causing unhealthy emotional turmoil and failing to provide the unconditional love that many people think are integral to fulfilling a child's welfare interests.

Of course, even though both genetic engineering and non-genetic improvements have the potential to lead down harmful parenting paths, nothing I have said thus far should be construed as an argument in favor of banning these two means of improvement. Indeed, in Chapter Four it was demonstrated that just because an activity *can* have harmful consequences does not automatically entail that policy bans are justified or even wise. The potentially harmful effects of child enhancement should be construed as establishing an important foundation from which the harm principle will be effectively applied.

Hyperparenting, value-shifts, and society

In this section, I will extend the previous discussion about harmful great expectations to a conversation about societal and cultural shifts in values that could take place in an age of designer children. I introduce a term that Michael Sandel uses, 'hyperparenting', which refers to the 'heavily managed and high pressure' method of raising children to succeed at any cost (Sandel 2004). The genetic engineering of children is one method out of many that could result in hyperparenting and its harmful effects.

Hyperparenting harms stem from fanatical attitudes. Unhealthy doses of parental ambition and misguided aspirations consume the life goals of their children. That we can point to other techniques by which hyperparents can misguidedly enhance their children that do not alter the child's genotype does not validate the genetic engineering of our children. Rather, this teaches us about the unfortunate ways that well-intentioned parents can inadvertently harm their children by losing sight of how children ought to be valued. While it is possible for parents to raise a genetically enhanced child in a healthy manner, the dangers that genetic engineering presents by providing us with another method for hyperparenting need to be recognized.

There is nothing wrong with parents providing their child with training and education that could aid the child in his or her development into a successful person. In fact, parents who take reasonable steps to provide their child with good education and who encourage a well-rounded lifestyle of sports and after school activities can be considered to be stellar parental figures. Similarly, if genetic engineering techniques were to be safe and effective, parents who choose to offer their child an advantage in athletic genes could do so in a healthy and responsible manner. As long as these methods of enhancement serve to enrich rather than burden, parents may have the right to improve their offspring in whatever healthy and responsible way they choose.

When we think about the hyperparenting model that makes use of the non-genetic enhancement means of improving one's child, we envision the untiring parents, who enroll their child in the most prestigious private schools, hire private tutors, and demand the utmost perfection in gymnastics meets and chess tournaments. These variations of the harmful hyperparenting model all share a commonality: they are all things *in which* children

participate. These forms of environmental enhancement are external to the children who participate in them because they are forms of training and education. Contrast this aspect of non-genetic enhancement with genetic enhancement, and we see that with genetic enhancement, the methods by which we enhance alter the child *herself* at conception. Moreover, genetic enhancement through pre-implantation genetic diagnosis involves making a choice about who your child will be on the basis of his or her future genotype. Granted, environmental enhancements alter the bodies and brains of children as do genetic enhancements. But there is a *popular perception* that choosing the genetics of your child before her birth is fundamentally different from the way a child's body and mind changes as she grows up and participates in piano lessons and gymnastics. This perceived difference originates from a misunderstanding about genetic determinism, which holds that how a person 'turns out' relies primarily on that person's genes, with environment making only small, auxiliary contributions. This is, of course, an inaccurate assumption about the interplay between genes and environment. But, this popular misconception can give rise to a subset of parents who could pursue genetically enhancing their children under uninformed assumptions, which could contribute to a shift in how some parents actually value their genetically engineered children. Unless education about genetic engineering accompanies advances in technology, society as a whole could be at risk of inappropriately valuing children. In the following paragraphs, I will outline some possible ways that a portion of society could become misinformed about genetics and their role in forming a person.

Genetic engineering for 'better children' may seem to involve a type of enhancement that has a distinct feature from the non-genetic means of enhancement typically found in hyperparenting. Genetic engineering becomes a matter of choosing the genetic

characteristics of your child rather than being ‘given’ your child, and then opting to train or educate her to improve upon the person she already is becoming. In the latter case, parents must use training to make the best of their child’s genetic makeup; in the former case, parents will be able to make the best of an already chosen genome. When a parent decides to genetically modify an embryo or select a specific one based on pre-implantation genetic diagnosis, the enhancement revolves around a choice about which child is to be preferred over other alternatives. When a parent decides to enhance his child via non-genetic means, he already acknowledges that his child was ‘given’ to him through the typical genetic lottery, and any subsequent non-genetic enhancement does not change the uniqueness of that child. The genetically modified child, then, is one who might be chosen by the parents by virtue of the genetic material that the child will come to express in the form of talent or skill.

Differences (both actual and perceived) between the genetic and non-genetic methods of enhancement of children pose a danger to society. No longer would certain parents rely solely on training and education to improve their children. Some parents would abandon the attitudes of accepting-love and tolerance by becoming preoccupied with their child’s genetic potential – their child’s ‘destiny’. While it is unclear just how prevalent this would become in the age of genetic enhancement, a philosophical analysis that focuses on preventing harm to others requires that one recognizes these potentials exist and should consider some possible ways of mitigating these harm. Certainly, the fallacious version of genetic determinism, which runs rampant in popular discussions about genetic engineering, could contribute to this inclination toward shifting parental attitudes.¹²⁰ Parents who believe in genetic determinism might be more disposed to contingently accept their child, based on how

¹²⁰ As stated earlier, an inaccurate version of Genetic determinism roughly states that a person’s genes determine how he/she turns out, with environmental influences having little or no role.

well he or she utilizes the genetic modifications. They may also have a love for their child that is conditional on whatever specific genetic enhancements that have been added to the child. Much like a child who is *born* to a family lineage of physicians might feel unhealthy pressure from her parents to become a physician, a child genetically engineered to be a world-class gymnast could also feel devastating pressure to fulfill her parents' dreams of Olympic glory. The risk that genetic engineering poses to children is one shared by all children who feel they must live up to some ideal and that they are meant or born to fill some particular role. Unfortunately, in the case of genetic engineering, sometimes the children are in fact 'meant' or 'born' to fulfill some role that has been predetermined by the parents. This particular motivation for the use of genetic engineering must be recognized and avoided. The parental attitude that accompanies a 'made-to-order' child places more value on the genetic potential of the child, and less on the child herself. It is in this way that genetic engineering can mar the healthy relationship between parents and their children.

To be sure, this shift in attitude should not be understood as a prediction about what *will* happen should genetic enhancement become available. Rather, this attitude shift is contingent upon the motivations and intentions of parents who wish to genetically engineer their children. It is also contingent upon how well (or poorly) the general public understands genetic engineering and its practical implications.

When genetic engineering becomes safe and effective, there will be three main types of parents. The first type will decide against genetically engineering their children for enhancement purposes. Some of these parents might choose to use genetic testing and technology to guard against disease, but insofar as enhancements are concerned, they will decline to enhance. The second type will choose to enhance their children from motives that

do not risk causing harm to children. These parents would both understand the implications of genes and choose to enhance their children with the intention of improving their children's opportunities and making their lives more enjoyable. Just as some parents encourage their children to enroll in music lessons or afterschool sports so as to enrich their lives, some parents will choose genetic enhancement with the same healthy perspective. For these parents, success will not hinge on the maximal utilization of some genetic trait. The third type of parent would pursue genetic enhancement for their children with certain expectations, where the value of their child will stand or fall with respect to the child's genes. These parents would fit squarely into the hyperparenting model. The combination of a misinformed public perception of genetic enhancement and a society that encourages the third type of parent just described (hyperparents) could propagate a shift in how parents value their genetically engineered children. If parents genetically engineer their children from intentions that involve unhealthy goals (and can therefore be considered reckless) then this attitude shift could result in a harmful relationship between the parents and their children. In cases like these, genetic engineering would become an especially powerful tool for potential hyperparents to wield against their children. When parents decide to genetically engineer their children to fulfill a particular life plan, their decision reflects a mindset that reveres, in the highest esteem, certain genetic traits. These genetic qualities become the primary focus of the child-rearing process, with the children themselves assuming a lesser role of importance in this process.

Genetic engineering may alter attitudes, shifting the way some parents *value* their children. The decision to genetically engineer one's child to realize a particular dream is an expression of a different way of valuing children. The object of value shifts away from the

child and toward the genetic modifications. This same value shift can also be seen in extreme cases of child-athletes in elite gymnastics and figure skating. Under ideal parental conditions, parents value their children not on the condition that they possess specific genetic predispositions for sport, music, mathematics. Rather, parents value their children on the basis that they are their children, and that is reason enough to render their children worthy of categorical value. Within this context, parents accept their child no matter the talents, gifts, defects, or potentials of the child-to-be. It would be very nice if the child may be gifted in some special way that puts her above the capabilities of the ‘norm’ in the respective area of talent; but this is not why we choose to raise a child, nor is it the basis on which we judge the standard of love and acceptance bestowed on a new addition to a family. Parents with a healthy approach to enhancement could even choose to genetically engineer their child without ever putting unjust expectations on their child. Having a strong and intelligent child, all things considered, might be preferable to having a child of weaker or simpler dispositions. Improvements on these traits could have indefinitely many beneficial implications for the resultant child. All of this could be accomplished without a parent ever forming a particular life plan of elite sport or academic greatness. If engineering one’s child in these ways is accompanied by recognizing the unconditional value of the child, then the harmful effects associated with these enhancements would be minimal or non-existent.

We see exceptional examples of this unconditioned value bestowed on children by their parents when a child is born critically ill or permanently disabled, and the parents value and love the child regardless of abilities or disabilities. The child’s value takes precedence over the abilities, talents, or potentiality of the child. Maintaining this axiological assumption in child-rearing is important for avoiding the harmful hyperparenting model to

which some children fall victim. Parents who genetically engineer their children with a preoccupation with talents and a corresponding life plan run the risk of valuing their children in terms of those enhancements. The child's value may wax or wane in the minds of the parents according to the giftedness or magnitude of potential that the child can be engineered to possess. Many parents who care for their sick or disabled children do not value or love their children based on whatever illness or disability their child might suffer.

There is an immediate objection to this claim. Without genetic engineering, children are sometimes conditionally valued by their parents when the currently available means for hyperparenting are exploited to their fullest potential. Notwithstanding the possible future methods by genetic engineering, parents can still value their children on conditions regarding their talents and abilities. The conditional value placed on children is not a problem in social values that is unique to genetic enhancement because it can happen in overly ambitious family settings without genetic modifications.

My reply would be to point out that some parents who become overly enraptured with unreasonable expectations and drastic measures for chasing those expectations may still lose sight of this unconditional value that ought to be given to the child. They might begin to value the child in the unhealthy and conditional manner that can be found in cases of genetically engineered children. Parents who enroll their children in gymnastics classes with the dream of obtaining Olympic glory at any cost run the risk of distorting their parental values and harming their children as a result. Parents who genetically engineer their children to possess special athletic potential run a similar risk. However, the fact that the harmful effects of conditionally valuing children can be obtained by both methods does not erase the fact that both can lead to disastrous effects. When coupled with unreasonable motivations,

genetic enhancements can lead to a harmful parent /child relationship. When coupled with reasonable and healthy intentions, education, training, and genetic enhancement can have effects on the parent /child relation that range from benign and inconsequential, to beneficial and nurturing.

It might be claimed that children have welfare interests in being valued unconditionally by their parents, regardless of whether there is a corresponding desire to be valued unconditionally. If we accept this assumption, then it is relatively easy to establish that children are harmed by their parents when genetic potential and skills in fulfilling a particular dream determine the conditional value of children. The interest of being valued unconditionally is thwarted whenever a parent's valuing of his or her child does not measure up to the standards of unconditional worth. Add to this claim that children are owed this assignment of worth, and harmful results can be established.

While I think that this argument can work, there are some problems with the claim that children have welfare interests in simply being valued in a certain way by their parents. I will first discuss some of these problems, and then provide a general response. First, it might seem counterintuitive to some to think that a child is harmed solely when her parents do not unconditionally value her. Independent of any actions performed by the parent, some might find it a stretch to think that one can harm one's child simply by not valuing her in a certain way. Harms seem to be the types of effects that occur as the results of wrong-doings or omissions of actions where action was required. However, it is possible (however unlikely) for a parent to provide a supportive and healthy environment for a child who is well fed and educated, without that child being valued unconditionally. In a very rare and peculiar case like this, it would be strange to say that the child was actually *harmed*.

Furthermore, stipulating that parents harm their children simply by what worth they assign their children would have the unpalatable result of holding parents responsible for mere ‘thought-crimes’ that have harmful effects simply in virtue of intentions. For example, a father with locked-in syndrome, incapable of any movement or communication, could ‘harm’ his son merely by holding the wrong opinion of his son by assigning worth to his son in proportion to academic success. A mother, sitting in prison and unable to affect her estranged daughter through actions or omissions, ‘harms’ her daughter simply by not valuing her categorically. In strange cases like these, we would admit these parents have the wrong intentions and are perhaps defective in their characters, but they do not actually harm their children solely by how they value their children. Typically, we think that harmful voluntary actions that could originate from these defective character traits are the causes of actual harm.

It might be argued that children would desire to be valued unconditionally, and that it is a good thing for them to be valued unconditionally. There are two points to be made here: First, whether children actually desire to be valued unconditionally, and are treated accordingly, is irrelevant to the question about whether children have certain welfare interests. Children have welfare interests in being valued in a certain way due to their possessing particular needs for a certain level of care. Without care and value, children would not experience healthy psychological and physical development. Second, as was discussed in Chapter Two, having a wish or desire for a particular person’s affection or value is not sufficient for giving rise to a corresponding claim right to that particular person’s affection. However, this case relating to children and their parents involves a special relationship that gives rise to obligations and interests. While I can claim no right against a

random stranger that he feed me three square meals per day (and would therefore not be wronged, nor harmed, if the random stranger declined my request for meals) children can legitimately claim such a right against their parents due to the special relation between children and their parents.

I would argue that nearly all the other interests that children possess largely depend on the prior condition of being valued by their parents unconditionally. Without having parents who value them in the proper way, many of children's basic interests become damaged and threatened by the uncertain and unpredictable consequences of the absence of parental caretaking. Granted, it is possible to present unusual and exceptional cases where parents devalue their children without apparent ill effects to other interests of the child. If one looks hard enough, one can find cases where children do well enough in life in spite of parents who devalue and debase. We can also find examples where parents cannot effectuate their defective valuing of their children, and the children do well. But cases of parents with locked-in syndrome whose will and debasement of their children can have minimal behavioral consequences on their children, and other similar circumstances, are very rare exceptions. They are sufficiently rare to say that by and large, children do possess welfare interests in being valued by their parents in the appropriate manner. The mere fact that one can find exceptionally resilient children, or children 'lucky' enough to escape bad parenting due to illness or incarceration of the parents, is not reason enough to reject the existence of a welfare interest that, on the whole, is a necessary condition for other interests of children to flourish.

One way to look at the question would be to examine what *effects* would accompany this value change if it would become a prevalent enough practice that would effect a large

population of children. Independent from exceptional cases, our beliefs and the extent to which we value persons have important behavioral consequences. Our beliefs about cockroaches, and how we value cockroaches, differ from our beliefs about persons and how we value persons. These differences in beliefs and values determine the differences between our treatment of cockroaches and persons. It seems to be a reasonable worry that the value and attitude shift that might accompany genetic engineering of children would lead to societal harm by how society might treat persons who are considered to have merely conditional worth.

Generally, when we assume that persons have categorical or unconditional worth, this axiological premise will guide our actions when we interact with persons. Briefly, I borrow from J. David Velleman's interpretation of the Kantian view of the value of persons. To say that a person has categorical or unconditional value is to say that a person has a value in him that cannot be weighed against anything else that has value for him. This categorical value derives from the rational nature of persons (or, in the case of children, the rational nature that they will come to possess), and must be distinguished from any other value in which persons might have an interest.¹²¹ The categorical worth of a person (or child) cannot even be cogently compared with (let alone weighed against) the value of mere things or traits, since the two types of values are of different kinds. For Velleman (and Kant), the categorical worth in a person is what makes anything else that persons might come to value valuable.

¹²¹ It might be objected that not all children will come to possess a rational nature in virtue of severe cognitive impairment, and according to this theory of categorical value, the severely cognitively impaired children do not have categorical worth. While this might be strictly true, it does not follow from this that cognitively impaired children are not valuable or should therefore be subject to be treated as mere objects. There are other reasons for why, in the overwhelming number of cases, we should treat such children as though they are categorically valuable. One reason would be that the cognitively impaired still possess rights that can be violated and welfare interests that can be damaged. A significant strength of the conception of harm that I develop and defend in this thesis is that it can recognize that the cognitively impaired can be harmed, and therefore should be afforded the same moral and legal protection that non-impaired persons enjoy.

Built into the notion of categorical worth is the idea that our actions must be constrained in certain ways and that some types of interactions are inconsistent with the categorical worth of persons. Specifically, if we assume that persons have categorical worth, then it is irrational to prefer or choose something of conditional worth over something of categorical or unconditional worth.¹²² It is irrational to choose something of conditional value over something of unconditional value for two main reasons. First, the two types of things which are being compared are very radically different due to the fact that one is conditionally valuable and the other is unconditionally valuable. The catch-phrase of ‘comparing apples with oranges’ would only begin to suit the spirit of this point. The second and most important reason is that all things that have conditional value are valuable because there are persons that assign value. Without persons (who have categorical worth), nothing else would have value. This is what gives ‘value priority’ of categorical values over conditional values. Something that can be said to have categorical or unconditional worth can also be described as having a worth that is outside of any price that can be attributed to it to capture the type and magnitude of its value. What Velleman and Kant would argue is so abhorrent about comparing a categorical value (a person) with a conditional value (genetic traits) is that we are ‘cheapening’ the categorical value of persons down to a conditional value, since the various preferable traits can weigh into a decision about which child to beget.

Assuming that children have categorical or unconditional value, there are certain ways of treating children that would be inconsistent with this axiological picture. For example, the appalling prospect of trading in a child for a ‘better’ one that more closely fits a certain genotype would be ruled out by the assumption that children have categorical worth. It is true that, in both instances, parents end up with a child of categorical worth. But, what is

¹²² This argument was developed by J. David Velleman in ‘A Right to Self-Termination?’ Ibid.

wrong with this situation is that such a trade involves weighing the original child's categorical worth against the various conditional values that happen to be found in the second child, and deciding that the conditional values themselves override the categorical worth of the first child. As I argued earlier, there is a difference between parents who merely prefer to enrich their children's lives with various 'enhancements' in order to make their lives go well, and parents who invert their priorities and value their children based on their enhancements. Parents of the former description do no harm, whereas parents of the latter description risk harming their children. Trading one child for another based only on various conditional values is an expression of an attitude that can harm children.

None of this presupposes that it is irrational or immoral to trade or sacrifice one person's life to save other lives, or to sacrifice your own life to save the life of a loved one. Correspondingly, none of what I have said requires any of these sacrifices or trades. In these extreme cases, the trades involve weighing values that are of the same category: the categorical value in persons. In other extreme cases, there may be 'trades' occurring that *appear* to be trades between categorical values conditional values, but a closer inspection of intentions can elucidate the matter. Suppose Jones is faced with the dilemma of choosing to either save a child from drowning or saving a fire extinguisher from floating away in the water. Jones chooses the fire extinguisher, which he uses to extinguish the fire on a boat that contained 50 passengers who would have otherwise died as the ship sank. One might confuse matters here, and claim that Jones sacrificed a categorical value (the life of the child) in order to get a fire extinguisher, which has merely conditional value. However, a proper analysis would conclude that Jones' intentions were to save 50 persons, all of which have categorical value; this 'trade' no longer appears to consist of trading between two different

categories of value. Where matters become problematic would be if Jones sacrificed the life of a brown-haired child in order to save a blonde-haired person *because of her blondness*, or if Jones sacrificed a non-athletic child to save an athletic child only to preserve athletic talent. This mindset loses perspective, and places merely conditionally valuable things above that which is categorically valuable; a person.

Also, nothing that I have advanced here implies that parents cannot love their children *in part* due to their particular talents or idiosyncrasies. Loving my daughter in part because of her talents or traits can be a way of recognizing the way her categorical value in her person can be expressed in variously unique ways. On the other hand, loving *that* my daughter is so talented, but losing sight of the value *in* her as a person, can indicate an irrational exchange of values.

To think along such lines would be to assume that the value of the child is *conditioned* on the child's genetic make-up or talents, which would be contrary to a child having unconditional value. Moreover, the categorical value of persons would preclude ranking siblings in terms of preference based on accomplishments, genetic predispositions, potentials or degree of giftedness, or whatever. Finally and more generally, the assignment of unconditional value to children would better promote a healthy and loving support system for the flourishing of children's emotional and psychological development when contrasted with what the assignment of conditional value on children would allow for childrearing. Children would be able to feel more secure and safe in an environment of unconditioned value. Parents would be inclined to view their children as ends in themselves whose potentials and talents ought not to be obsessed over, but rather merely encouraged.

Should children be viewed as having merely conditional value, then the above constraints on how children can be treated and raised would not exist. These possible practical results would include a disproportionate emphasis being placed on what children can do, what skills they have been born with, and how they can be used to meet the goals and wishes of other people. Without the unconditional value that should be assigned to children, their assigned conditional worth can set the stage for exploitive treatment that would be result-oriented rather than child-oriented.

A value system that recognizes the worth of persons as equal or secondary to mere things can lead to the possibility of using persons as tools and means to the ends of others in the same way that talent, skill, and education can be used as tools for obtaining an end. When horses are bred for racing, the genotypic features favorable for winning become equally valuable (if not more valuable) than the horse which bears those physical traits. The horse becomes a mere vessel for the fruition of those talents which, in turn, are used by others for the pursuit of their own ends. The genetically engineered horse can lose its value *as a horse* under these circumstances. Instead, the horse loses and gains conditional value in proportion to the horse's propensity to win races. If the horse should meet with a costly physical injury that would render it an inferior racer, the horse could be euthanized. An unconditionally valued horse or child has infinitely more protection from harmful and exploitive treatments than a conditionally valued horse or child would have, since the latter could lose their value when their abilities are damaged by misfortune. It is in this way that conditionally valued genetically engineered children become subjected to unhealthy treatment that places their value on a par with or contingent on whatever genotype they have been engineered to express. When the things that people can do becomes more important

than the people who can do such things, the stage becomes set for injustice and damage to the welfare interests of others. Given these initial conditions, it requires little in the form of extended argument to conclude that this societal atmosphere which fosters a perverse value system toward genetically engineered children would be harmful to the children involved.

In this chapter, I argued that if and when it becomes possible for parents to choose to genetically engineer their children, there are at least two ways that children can be harmed: failed expectations that lead to parental neglect and a change in the way some parents value children. It is true that neither of these harmful effects is directly related to genetic enhancement, and that these same concerns indeed pervade broader discussions about parenting. Hyperparenting and conditionally valuing children occur independently from genetic engineering. However, any normative analysis of any particular category of human enhancement, and especially one that carefully considers the question of harm, must look beyond the immediate effects of a particular enhancement. Otherwise, the analysis would constrain itself to merely cataloguing all of the benefits and all of the adverse side-effects of a particular technology, and it would leave out many philosophically interesting and important normative issues. Questions about distributive justice, positional advantages, whether a particular enhancement should count as ‘cheating’, and inquiries into the good life as it pertains to how particular enhancement technologies alter our lives, are all important and none are specific to any enhancement in particular. Various types of harms associated with all of these normative issues need not be direct results of any particular enhancement, but it is still imperative to address such concerns. The preceding analysis was meant to focus on two ways that genetic engineering could potentially lead to harmful effects, given certain initial conditions with respect to public misunderstandings about genetics and the

proliferation of hyperparenting in society. Due to the fact that these potentially harmful consequences of genetic engineering are also broader concerns regarding parenting in general, and there are ways of mitigating these harms without depriving parents of making responsible choices, it would be prudent not to outright ban or restrict safe and effective genetic engineering. Preventing harm is of high importance, but preserving individual liberty--parental liberty in particular--is important as well. In the next section, I offer a brief outline of some social and policy recommendations that can mitigate the potential for these harms while also preserving everyone's interest in parental choice.

Policy implications

It should be noted that it is not altogether certain the extent to which parents who choose to genetically enhance their children will in fact devalue their children or harm their interests when 'engineered' children fail to live up to preconceived life plans. It could be the case that parents who choose genetic enhancement for their children generally will not lose sight of the importance of valuing children in the right ways. It could also be the case that a great many parents who choose the genetic engineering route end up harming their children in the ways just discussed. The point here is that we cannot predict what will happen with any degree of certainty. We can, however, try to anticipate some ways things could go wrong, and propose ways of either preventing or mitigating harmful results.

Before outlining the policy implications of the foregoing discussion, it is important to keep in mind that policy and legislation are not the only tools society can utilize for coping with the potentially harmful consequences discussed in this chapter. Since the topic of this chapter dealt primarily with values pertaining to parenting, societal attitudes and culture can

have a strong impact on determining the extent to which the harmful effects discussed in this chapter actually become legitimate problems in need of policy solutions. A society that embraces a collective culture of strong parental values that emphasize categorically valuing children and maintaining the welfare interests of children will have less need to rely on laws and policies aimed at preventing harm. While cultural norms will have an effect in other areas of enhancement, they will have an especially strong impact on determining how society will need to address how parents use genetic engineering to enhance their children's lives. Parental values and methods of raising children are, to a very large extent, topics of culture and societal norms more than they are topics of laws and policy (so long as those values and methods meet a certain minimal standard).

In addition to fostering a societal culture that encourages certain parental values, the main policy recommendation that should be considered within the context of this chapter would be an educational program for parents who express a desire to genetically engineer their future children. This would be operating under the assumption that all available genetic enhancement procedures were safe toward the child.

An educational program that could be integrated into genetic engineering programs could accomplish two main goals: 1) Educate prospective parents about the realities of genetic engineering and the limitations of genes in determining how a person develops. The fallacy of genetic determinism would be addressed, and appropriate expectations would be explained. 2) Inform prospective parents about raising a child in a healthy environment of encouragement and support. The educational program would also inform the parents about unhealthy approaches to raising a child that has been genetically engineered, particularly the danger of valuing the child solely in terms of the enhancements. The aim would be to

promote awareness of the harmful effects of hyperparenting and ways to prevent these harmful effects. Operating under the assumptions that parents wish to avoid harming their children and that they want what is best for their children, such an educational program could help reduce these potential harms. The specifics of the educational programs should be determined by the mental health community and specialists most familiar with parenting psychology, child psychology, sociology, and family dynamics.

Concluding remarks on the genetic engineering of children

In this chapter, the harm principle was used to examine the ethics of the parental choice of genetically engineering children to express certain genotypic potential. After surveying the various methods by which children could be genetically enhanced in the future (PGD, IVF, embryo modification), I suggested two main ways that the utilization of these technologies for enhancement could run afoul of the harm principle: the problem of great expectations and the attitude shift and value change that society might incur toward children.

A child could be inadvertently harmed by her parents when the parents' expectations are disappointed when the child who was genetically enhanced does not take advantage of the genetic endowment. In special cases of these disappointed expectations, the parents could harm their child's welfare interests by failing to provide the support that a parent has a duty to provide their child.

On the other hand, the second problem that genetically enhancing our offspring could lead to is a possible shift in value or worth that would be assigned to children who are genetically enhanced. The genetic enhancement of children by overly ambitious parents could express the conditional value assigned to children who are enhanced by those

prospective parents. This possible value shift would not only be harmful in itself, but it also could foster a societal environment where what should be valued as having worth beyond any price (persons) is reduced to being assigned mere conditional worth that could be traded and compared with mere things. Those harmful forms of treatment toward persons would not be incompatible with a new axiological paradigm where a person's value waxes and wanes with his genetic limitations and gifts. I have suggested that cultural values, attitudes on parenting, and some policy recommendations could help to mitigate the potentially harmful effects of genetically engineering children.

-Chapter 7-

Conclusion

Summary

In this thesis, I argued for the use of the harm principle in the context of the current debate on biomedical human enhancement. In order to do this, I provided my interpretations of Joel Feinberg's conception of harm and formulation of the harm principle. I then applied this interpretation of the harm principle to three categories of enhancement: physique enhancement, cognitive enhancement, and genetic engineering of children.

To motivate my project, I highlighted two shortcomings in the literature on the moral and social issues of human enhancement. The first is a general tendency for the debate to be framed in favor of / against enhancement in general. The first camp has been called the Transhumanist position whereas the latter has been called the Bioconservative position. While writers will differ with respect to the details, this bio-political divide has drawn attention away from examining the true morality of the enhancements, replacing it with politics. I argued that approaching enhancement in terms of being generally for or against is misguided. A third approach, which I think is better suited to philosophically analyzing enhancements, is one called the Biomoderate position. According to this approach, we should analyze particular categories of enhancement in terms of their specific merits and demerits.

The second point that motivates my project is that despite the burgeoning literature on the ethics and policy concerns of enhancement technologies, the discussion has been relatively silent with respect to the topic of harm to others. While some authors might only

mention harm, there is still a need for a comprehensive treatment of harm, the harm principle, and an application to topics in enhancement. The overarching purpose of this thesis was to begin to address this deficiency in the literature.

Future Directions and Advancing the Debate

Human capacities: current and new

Despite the fact that different liberty limiting principles provide diverse paths for normative inquiry, it is my hope that the harm principle and more general considerations of harm to others play a more prominent role in the debate on human enhancement than they have in the past. The three categories of enhancement that I covered in this work only begin to address harm to others in the realm of human enhancements. Future efforts would address harm to others in other major categories of human enhancement, particularly life extension, mood enhancement, and any other capacities that can be improved through the use of biotechnology. Furthermore, there is no reason that my project should not be extended to technologies beyond the biotechnical sphere. Ethical questions regarding technologies that offer the potential for mind / consciousness upload into computer programs and the use of robotic / computer prosthetics that can replace various biological human body parts would benefit from the detailed application of the harm principle as it was defended in this work.

In addition to these new methods of enhancing capacities, some philosophers like Nick Bostrom have entertained the idea that enhancement technology could one day give rise to entirely new capacities in human beings. Of course, it is difficult to try to imagine what new capacities could be added, and it is even harder to try to predict the details with regards to social and moral implications. One way to think about future new capacities has been

expressed by way of analogy. For example, human beings can enjoy and appreciate music, whereas reptiles do not share this capacity with human beings. Reptiles are ‘closed’ in terms of this capacity. Perhaps there exist realms of experience that are ‘closed’ to human capacities currently, much in the same way musical experience is closed to reptile capacities, but new capacities enabled by technology could bring human beings into these new realms. Human beings gaining new capacities would be similar to reptiles gaining the capacity to appreciate music. Though the effects of some new enhancements might be exotic, the harm principle and its supporting concepts as I have articulated them in this work could be applied on a case-by-case basis in order to prepare ourselves and society to minimize and prevent harmful consequences.

Harmful Side Effects

While the topic of adverse side effects of certain pharmaceutical and genetic vectors for delivering enhancement technology has not been discussed at length in my thesis, the harm principle will need to be applied in the future to various methods of enhancement in order to attempt to anticipate and mitigate harmful effects of various new technologies. In general, the concern about side effects of enhancement technology is not different from the concern about side effects of therapeutic medical technology. Harmful side effects can be divided into at least two categories: side effects that are harmful to the user of the enhancement and side effects that cause the user to harm others (third party considerations). In the first instance, the harm principle would have us focus on cases of wrong-doing by the producers of enhancements. Consumers could be harmed when biotech companies release products that have been inadequately tested. Similarly, harm to others would occur when known harmful side effects are concealed from public knowledge.

The second context of harmful side effects deals with third party victims. There are many different ways particular enhancements could lead a user to harm others. One example would be a substance that turns a large percentage of users (perhaps 15 percent) into uncontrollably violent monsters. Any benefits that could be gained by such an enhancement could very well be overshadowed by the resulting harm to society. Another example would be the risks of birth defects of certain enhancement technologies. An analysis of harm would extend to cases in which expectant mothers take particular enhancements with full knowledge of an increased risk of severe birth defect. Similarly, transgenerational harm would be a topic worth examining. The focus here would be to provide an analysis of harm to others where the harmful events take place before an individual was conceived. Certain genetic engineering procedures and perhaps pharmaceutical enhancements could have such harmful side effects, and more work would need to be done on these topics.

Radical enhancements

Biomedical technology could one day afford even more radical possibilities than enhancing capacities that we already possess or novel ones we create. The harm principle, as I have developed and applied it here, will still be an important normative consideration. For example, philosophical questions about personal identity can intersect with concerns over harm to others in the context of technologies that deal with mind uploading technology. According to one version of this futuristic technology, if we assume that consciousness is reducible to all of the 'stuff' going on in our heads (including neurons and synapses and all of the relevant interactions) then it is conceivable that a complete mapping of all brain states of a particular person could allow that a perfect duplicate of that person's brain to be 'uploaded' to a powerful computer. Another version of this scenario suggests that parts of the human

brain are gradually replaced by computer prosthetics that perform various functions even better than the original human parts until mind upload is possible. Assuming this plan works, a particular person's consciousness could continue to exist indefinitely in a computer software reality. Her consciousness would include all her memories, ideas, propensities, likes and dislikes, dreams, and idiosyncrasies. The metaphysical plausibility of this idea is currently uncertain. This is because the possibility of mind uploading hinges on contentious assumptions about very big questions like whether it is possible for computers to think and whether human consciousness is reducible to solely brain activity. In his paper, 'Ray Kurzweil and Uploading, Just Say No!', Nicholas Agar notes that while computer scientist Ray Kurzweil and some philosophers believe this project is, in principle, possible, other philosophers like John Searle are skeptical of the plausibility of mind upload.¹²³

Regardless of the metaphysical problems of mind upload, there are important normative issues that should be considered in the event that this technology becomes feasible. An important moral problem is whether mind uploading would constitute a type of 'death', since the original flesh and bone would be considered obsolete and unnecessary. People may not only prefer this uploaded existence (with all of its limitless possibilities) for themselves, but they may also impose this existence on their children as an enhanced existence free from the 'slings and arrows' of growing up with a body. Would parents harm their children by making this decision for them? On the one hand, an existence within a computer program could be 'programmed' so as to exempt our lives from physically suffering. Physical pain, disease, and hunger can all be more easily engineered away inside a computer program. While eliminating physical pain, disease, and hunger in reality would

¹²³ Agar, Nicholas. Ray Kurzweil and Mind Upload: Just Say No!. Journal of Evolution and Technology - Vol. 22 Issue 1 – November 2011 - pgs 23-36

come with a large host of physiological, biological and pragmatic problems, many of these problems could be ‘adjusted for’ in a computer software uploaded existence, since the laws that govern ‘reality’ and the contingent initial conditions could be adjusted. All parents face the harsh reality that our children will suffer from these corporeal ills, and it could be tempting to choose a path that would militate against these harsh realities. Some philosophers (perhaps those with a Utilitarian bent) could argue that uploading our children would be not just permissible, but morally obligatory.¹²⁴ Reducing the amount of suffering and maximizing happiness in our children are moral duties, and mind-uploading could be the premier method of realizing these obligations.

On the other hand, we must ask if we would be ‘killing’ our children when we make computer copies of them and subsequently discard their original body. If this process does count as a type of death, would this type of death be harmful? No doubt, addressing these concerns requires an involved discussion about notions of personal identity. Furthermore, important moral questions concerning interpersonal relationships between computer-uploaded minds and corporeal minds should be addressed with the harm principle. Presumably, the intellectual capacities of mind-uploaded persons could far outperform corporeal persons. Without a corporeal body subject to degradation and eventual death, mind-uploaded persons would live indefinitely longer than their corporeal counterparts. The harm principle would need to be applied in light of these social concerns in order to maintain

¹²⁴ While it might seem unthinkable that this would be allowed before we fully understand what mind uploading involves, part of the reason why I raise this issue is because an application of the harm principle would lead us to this path of inquiry. There are examples in the history of medicine where various practices, research studies, or proposals, the serious consideration or use of which would strike us as implausible, actually were seriously considered or even used. Involuntary sterilization programs, for example, were performed and given moral support in modern western democracy. A proper understanding and application of the harm principle will be important to prevent programs that could be harmful to others. My point here is that the harm principle is needed in order to motivate us to get much clearer on how mind uploading would really work and what the practical problems would entail.

and protect the rights and interests of all citizens in a constitutionally bound democratic-republic.

Of course, these questions and their answers are beyond the scope of this work. I raise these questions here as vivid examples of future technology that society might need to face, and considerations of the harm principle will still be relevant for sorting through difficult moral and social problems that will accompany these technologies.

Additional supplementary principles

When applying the harm principle to other categories of enhancement, it is important to remember that supplementary normative principles may need to guide the analyses. As I noted in Chapter Three, Feinberg has emphasized the utility of these supplementary principles whose content will vary in accordance with the nature of the subject matter. In future applications of the harm principle, different supplementary principles will need to be ‘fitted’ to the different categories of enhancement. More specifically, the content of the normative principles will be determined by the particular moral and social issues arise during analysis. Additionally, different ethicists and legislators *may* use different normative principles, so long as those principles remain loyal to the spirit of the harm principle. In this way, the use of the harm principle can be flexible within its own boundaries. However, it is vital that the harm principle is *not* overextended to justify the use of state force for protecting individuals from harming themselves (paternalism) or to enforce *mere* morality (legal moralism). Overextending the harm principle by using inappropriate supplementary principles would be to directly defeat the purpose and constraints of using the harm principle; the harm principle is a liberty-limiting principle that solely concerns itself with harm to

others. While such boundaries might not be drawn in clearly demarcated lines, I am reasonably confident that the lengthy analysis found in chapters two and three of this work can go quite far in obtaining a clearer picture of where these boundaries lie in the philosophical backdrop.

Other liberty limiting principles and enhancement

While it is exceedingly important, harm to others is not the only example of a liberty limiting principle that could inform our discussion on human enhancement technologies. Future normative work on topics in human enhancement would benefit from detailed analyses that revolve around legal paternalism and legal moralism as their analytic frameworks.

The liberty limiting principle of legal paternalism would support restrictions against human enhancement technology that is deemed to be harmful to the user of a particular enhancement. Instead of restricting the domain of the analysis to harm to others, this philosophical project would provide a detailed overview of the conditions that constitute harm to self. Perhaps a philosophical conception of harm, distinct from the one I endorse in this work, might also be necessary to include in this project. Once the normative framework of paternalism is established, a careful application of the ‘harm to self’ thesis could be done for various categories of human enhancement.

Furthermore, an analysis of human enhancement technologies from the perspective of legal moralism could offer some insight about social policy responses to new technologies. Legal moralism is the doctrine that says that it can be legitimate for the state to interfere with individual liberty in order to prevent conduct that is deemed to be inherently immoral, where

such conduct is neither harmful to others nor to the actor. Certainly, this project would require a careful explanation of what conduct qualifies as being inherently immoral and how that conduct is to be distinguished from harmful conduct.

It should be noted that legal moralism is much more controversial than the harm principle, since legal moralism entails that the state should impose a particular conception of morality on everyone within society. On the other hand, the harm principle is generally associated with classical liberalism. This is the idea that the state should remain as neutral as possible with regards to 'mere' morality, and state force is justified in order to protect the autonomy of individuals. As I pointed out in Chapter Two, there are few thoughtful people who would outright reject the harm principle. Conversely, there is significant contention over whether the state is justified in the enforcement of mere morality.

Due to the controversial nature of legal moralism, conclusions that are drawn from its application will typically be contentious as well. Traditionally, legal moralism has been used to legitimize sanctions against various forms of 'sexual perversions' performed by consenting adults in privacy and voluntary economic transactions thought to be immoral, such as gambling. However, new technological advances could also raise similar arguments. Various Bioconservative arguments may be rooted primarily in the intrinsic morality of enhancing human capacities. A detailed examination of legal moralism and its application to human enhancement might allow us to better evaluate the merits and demerits of these lines of reasoning.

Final thoughts

As technology grows in power and influence, prioritizing our normative values is imperative. The power and authority we can exercise over our own biology and destiny will become more evident now and in the future than it ever has been in our collective history. Echoing the sentiments of Franklin D. Roosevelt, this authority and power will come with greater and greater responsibility to wield this power in a just and conscientious manner. Meeting these challenges requires that we put aside pre-established political allegiances and pre-conceived sentiments that do not find their basis in sound reflection and reasoning. We must remind ourselves that our priorities should always include considerations of preventing harm to others; doing so can help us ensure our individual and collective well-being as we transition to a future of unprecedented technological change.

Bibliography

Agar, Nicholas. Ray Kurzweil and Mind Upload: Just Say No!. *Journal of Evolution and Technology* - Vol. 22 Issue 1 – November 2011 - pgs. 23-36

Agar, Nicholas. *Humanity's End: Why we should reject radical human enhancement*. A Bradford Book (August 16, 2013).

Anderson, Rozalyn M., Dhanansayan Shanmuganayagam, Richard Weindruch. 'Caloric Restriction and Aging: Studies in Mice and Monkeys'. *Toxicol Pathol* January 2009 vol. 37 no. 1 47-51

Annas, George J., Andrews, Lori B. and Isasi, Rosario. "Protecting the Endangered Human: Toward an International Treaty Prohibiting Cloning and Inheritable Alterations," *American Journal of Law & Medicine*, Vol. 28, Nos. 2 & 3, pp. 151–178 (2002)

Arthur, John. 'Sticks and Stones' in *Ethics and Practice* ed. Hugh LaFollette. 3rd ed. Blackwell Philosophy Anthologies.

Baker, Nicole A., Kevin W. Cleveland, Catherine A. Heyneman, 'Ergogenic Substance Use and Detection in Adolescent Athletes: An Overview'. *California Journal of*

Health-System Pharmacy. 20:3. 2008.

BBC News, 'Genetic Engineering Boosts Intelligence'. *Sci-Tech* section, Wednesday, September 1, 1999

Blond, Anna. 'Impacts of exposure to images of ideal bodies on male body dissatisfaction: A review'. *Body Image*, Volume 5, issue 3 (September, 2008), p. 244-250

Bloom, Paul, 'Descartes' Baby: how the science of child development explains what makes us human'. Basic Books, 2004

Bloom, Paul. 'How Do Morals Change?' *Nature* 464, 490 (25 March 2010).

Blomstrand, E., Hassmén, P., Ekblom, B, and E. A. Newsholme. 'Administration of branched-chain amino acids during sustained exercise — effects on performance and on plasma concentration of some amino acids.' *European Journal of Applied Physiology and Occupational Physiology*. Springer Berlin / Heidelberg. Volume 63, Number 2 / August, 1991

Bostrom, Nick and Savulescu, Julian. *Human Enhancement*. Oxford University Press 2009.

Bostrom, Nick. 'Smart Policy: Cognitive Enhancement and Public Policy'. Forthcoming in *Enhancing Human Capacities*, eds. J. Savulescu, R. ter Muelen, and G. Kahane (Oxford: Wiley-Blackwell, 2009)] w/ Rebecca Roache

Bostrom, Nick. *Journal of Medical Ethics*, 2005. Vol. 31, No. 5

- Bostrom, Nick. 'Human Genetic Enhancements: A Transhumanist Perspective'. (2003) *Journal of Value Inquiry*, Vol. 37, No. 4, pp. 493-506.
- Bostrom, Nick and Sandberg, Anders. 'The Wisdom of Nature: An Evolutionary Heuristic for Human Enhancement'. [In *Enhancing Humans*, eds. Julian Savulescu and Nick Bostrom (Oxford University Press, 2009): pp. 365-416
- Bostrom, Nick. Bostrom's "In Defence of Posthuman Dignity," *Bioethics*, Vol. 19, No. 3, pp. 202-214, 2005.
- Bostrom, Nick and Roache, Rebecca. 'Ethical Issues in Human Enhancement'. In *New Waves in Applied Ethics*. Ed. Jesper Ryberg. Palgrave MacMillan.
- Brock, Dan. 'Is Selection of Children Wrong?' In 'Human Enhancement' (eds) Nick Bostrom and Julian Savulescu. Oxford University Press, 2009.
- Brock, Dan. "Enhancement of Human Function; Some Distinctions for Policy Makers," in *Technologies for the Enhancement of Human Capacities*, ed. E. Parens. Washington DC: Georgetown University press, 1998.
- Bubnoff, Andreas von. 'One Strong Tyke: Gene mutation in muscular boy may hold disease clues'. *Chicago Tribune*, June 24, 2004.
- Buchanan, Allen., Norman Daniels, Daniel Wikler, Dan W. Brock, Daniel I. Wilker. *From Chance to Choice: Genetics and Justice*. Chapter 4. Cambridge University Press. 2000.
- Buchanan, Allen. 'Beyond Humanity? The ethics of Biomedical Enhancement). Oxford University Press; Reprint edition (February 8, 2013).
- Carey, Benedict. 'Brain Enhancement is Wrong, Right?'. *The New York Times*. March 9th, 2008.
- Corvino, John. 'Why Shouldn't Tommy and Jim Have Sex? A Defense of Homosexuality' in "Same Sex: Debating the Ethics, Science, and Culture of Homosexuality" (1997)
- Daniels, Norman. 'Just Healthcare'. Cambridge University Press, 1985
- Darkes, Jack. APA Talk: Anabolic/Androgenic Steroids and Aggression. 115th Annual Convention of the American Psychological Association (APA) in San Francisco, CA on August 19, 2007
- Ida, Ryuichi. 'Should We Improve Human Nature? An Interrogation from an Asian Perspective'. In Human Enhancement, ed. Nick Bostrom and Julian Savulescu. Oxford University Press, 2009
- Epel, Elissa. Daubenmier, Jennifer. Moskowitz, Judith Tedlie. Folkman, Susan and Elizabeth Blackburn. 'Can Meditation Slow Rate of Cellular Aging? Cognitive Stress, Mindfulness, and Telomeres'. *Ann N Y Acad Sci*. 2009 Aug;1172:34-53

Fahey, T.D. (1998). Anabolic-androgenic steroids: mechanism of action and effects on performance. In: Encyclopedia of Sports Medicine and Science, T.D.Fahey (Editor). Internet Society for Sport Science: <http://sportsci.org>. 7 March 1998.

Feinberg, Joel. Harm to Others: The Moral Limits of the Criminal Law. Oxford University Press, 1984.

Feinberg, Joel. 'Social Philosophy'. Foundations of Philosophy Series. Ed. By Elizabeth and Monroe Beardsley. Prentice Hall, 1973

Fischer, John. The Metaphysics of Death. Stanford University Press 1994

Fukuyama, Francis. Our Posthuman Future. (New York: Farrar, Straus and Giroux). 2002.

Galligani N, Renck A, Hansen S. Personality profile of men using anabolic androgenic steroids. Horm Behav. 1996 Jun;30(2):170-5

Gazzaniga, Michael, S. 'The Ethical Brain: The Science of Our Moral Dilemmas'. Harper Perennial, 2006.

Glannon, Walter. 'Bioethics and the Brain.' Oxford University Press, 2007

Goldman, Alan. 'The Moral Foundations of Professional Ethics', Rowan, and Littlefield, 1980

Elizabeth Harman, 'Can we harm and benefit in creating?', Philosophical Perspectives, 18, Ethics, 2004.

Hart and Honore. 'Causation and the Law', Oxford: Clarendon Press, 1959.

Hart, Henry M. Jr., 'The Aims of the Criminal Law'. 23 Law and Contemp. Problems. 401. 1958

Hauskeller, Michael. 'Prometheus unbound: Transhumanist arguments from (human) nature' Ethical Perspectives. 16, no. 1(2009): 3-20.

Hughes, James. In Jonathan D. Moreno & Sam Berger (eds.), Progress in Bioethics: Science, Policy, and Politics. Mit Press (2010)

Hellmich, Nanci. 'Do thin models warp girls' body image? USA Today, September 26, 2006.

Ida, Ryuichi. 'Should We Improve Human Nature? An Interrogation from an Asian Perspective'. In Human Enhancement, ed. Nick Bostrom and Julian Savulescu. Oxford University Press, 2009

Kanayama G, Pope HG, Cohane G, Hudson JI. Risk factors for anabolic-androgenic steroid use among weightlifters: a case-control study. Drug Alcohol Depend. 2003 Jul 20;71(1):77-86.

Klötz F, Garle M, Granath F, Thiblin I. Criminality among individuals testing positive for the presence of anabolic androgenic steroids. Arch Gen Psychiatry. 2006 Nov;63(11):1274-9.

Kass, Leon R. "Ageless Bodies, Happy Souls," *The New Atlantis*, Number 1, Spring 2003, pp. 9-28.

Laham, Simon M. 'Expanding the moral circle: Inclusion and exclusion mindsets and the circle of moral regard'. *Journal of Experimental Social Psychology* Volume 45, Issue 1, January 2009.

Lemonick, Michael. David Bjerklie and Alice Park, and Dick Thompson, 'Designer Babies'. *Time Magazine*, Jan. 11, 1999.

MacCoun, Robert J. and Router, Peter. 'Drug War Heresies: Learning from Other Vices, Times, and Places' (RAND Studies in Policy Analysis). Cambridge University Press. 2001.

MacKinnon, Catherine. "Not a Moral Issue". *Feminism Unmodified*, Harvard University Press. 1987

Thomas Mappes, Jane Zembaty. *Social Ethics: Morality and Social Policy*. McGraw-Hill Humanities/Social Sciences/Languages; 6th edition (2002)

Mill, John Stuart. *On Liberty*. Penguin Classics. 1974 edition.

Monastersky, Richard. 'Many Academics Use Drugs to Enhance Their Brain Power, Survey Suggests'. *The Chronicle of Higher Education*. April 10, 2008.

Mosher DS, Quignon P, Bustamante CD, Sutter NB, Mellersh CS, Parker HG, Ostrander EA (May 2007). "A mutation in the myostatin gene increases muscle mass and enhances racing performance in heterozygote dogs". *PLoS Genet*. 3 (5): e79. doi:10.1371/journal.pgen.0030079. PMID 17530926.

Neimark, Jill. 'The Beefcaking of America' *Psychology Today*, November 1, 1996.

Norcross, Alastair. 'Harming in Context'. *Philosophical Studies* (2005) 123: 149–173.

Nozick, Robert. *Anarchy, State, and Utopia*. Basic Books. 1974.

Nussbaum, Martha. 'On Moral Progress: A Response to Richard Rorty', *The University of Chicago Law Review*. 74:939.

Olivardia, Roberto. Ph.D., Harrison G. Pope, Jr., M.D., M.P.H., and James I. Hudson, M.D., S.M. 'Muscle Dysmorphia in Male Weightlifters: A Case-Control Study'. *Am J Psychiatry* 157:1291-1296, August 2000.

Ouellette, Alicia R. 'Termination of Life-Support for A Never Competent Patient: The Case of Sheila Pouliot', in *Ethical Issues in Modern Medicine: Contemporary Readings in Bioethics*. 7th ed. Edited by Bonnie Steinbock, John D. Arras, and Alex John London. McGraw-Hill 2009

Overall, Christine. *Aging, Death, and Human Longevity: A Philosophical Inquiry*. Berkeley California Press. 2003

Overall, Christine. 'Life Enhancement Technologies: The Significance of Social Category Membership' in Human Enhancement. Ed. Nick Bostrom and Julian Savulescu. Oxford University Press. 2009

Pence, Gregory. 'How to build a better human: An ethical blue print'. Rowman & Littlefield Publishers; 1 edition (August 17, 2012)

Pinker, Steven. 'Better Babies? Why Genetic Enhancement is too unlikely to Worry About'. The Boston Globe. June 1, 2003.

Pitcher, George. 'The Misfortunes of the Dead' American Philosophical Quarterly. 1984.

Plassman, B.L. K.M. Lang, G.G. Fisher, S.G. Heeringad, D.R. Weir, M.B. Ofstedald, J.R. Burke, M.D. Hurd, G.G. Potter, W.L. Rodgers, D.C. Steffensa, R.J. Willis, R.B. Wallace. 'Prevalence of Dementia in the United States: The Aging, Demographics, and Memory Study'. Neuro-epidemiology. Vol. 29, No. 1-2 2007.

Pope, Harrison G. Jr., Phillips, Katharine A., Olivardia, Roberto. 'The Adonis Complex: The Secret Crisis of male body obsession.' Free Press. 2000.

President's Commission for the Study of Ethical Problems in Medicine and Biomedical Behavior Research, Securing Access to Health Care, Vol. 1 (1983).

Rescher, Nicolas. 'Welfare: The Social Issue in Philosophical Perspective'. Pittsburgh. 1972.

Rebecca, Roache & Steve Clarke 'Bioconservatism, Bioliberalism, and Repugnance' Monash Bioethics Review 28 (1):04.1-04.21 (2009)

Rodgers R, Chabrol H. 'The impact of exposure to images of ideally thin models on body dissatisfaction in young French and Italian women'. Encephale. 2009 Jun;35(3):262-8. Epub 2008 Sep 20.

Ryan, Joan. 'Little Girls in Pretty Boxes: The making and breaking of elite gymnasts and figure skaters'. Grand Central Publishing, 1996.

Sager, Michael. 'The Smartest Man in America', Magazine: Esquire, November 1999.

Sandel, Michael. 'The Case Against Perfection: What's Wrong with Designer Children, Bionic Athletes, and Genetic Engineering' The Atlantic, April 2004

Savulescu, Julian. 'Genetic Interventions and the Ethics of Enhancement of Human Beings'. In Ethical Issues in Modern Medicine. Ed. Bonnie Steinbock, John D. Arras, and Alex John London. 7th edition. McGraw Hill Pub. 2009.

Sherner. M. 'On the Argument that Enhancement is Cheating'. J Med Ethics 2008;34:85-88

Shiffrin, Seana Valentine. Harm and its Moral Significance. Legal Theory. 2006.

Singer, Peter. 'Famine, Affluence, and Morality'. Philosophy and Public Affairs, vol. 1, no. 1 (Spring 1972), pp. 229-243.

Singer, Peter. 'Parental Choice and Human Improvement'. In Rasko, O'Sullivan, and Ankeny (eds). 'The Ethics of Inheritable Genetic Modification'. Cambridge University Press, 2006.

Sukho Lee, Elisabeth R. Barton, H. Lee Sweeney and Roger P. Farrar. Viral expression of insulin-like growth factor-I enhances muscle hypertrophy in resistance trained rats. *J Appl Physiol* 96:1097-1104, 2004

Smart JJC and Williams Bernard, *Utilitarianism: For and Against*. Cambridge University Press, 1973.

Smith, Steven. 'The Hollowness of the Harm Principle', University of San Diego School of Law and Legal Theory Research Paper Series No. 17. 2004.

Steinbeck, George. 'Of Mice and Men', 1937

Thomson, Judith Jarvis. 'A Defense of Abortion'. *Philosophy & Public Affairs*, Vol. 1, no. 1 (Fall 1971)

Tucci S, Peters J. 'Media influences on body satisfaction in female students.' *Psicothema*. 2008 Nov;20(4):521-4.

Velleman, J. David. 'A Right to Self-Termination?' *Ethics* 109 (3):606-628. 1999.

Volkow, Nora D. 'Consequences of The Abuse of Anabolic Steroids'. Testimony before the Committee on Government Reform United States House of Representatives. March 17, 2005.

Wallace, Amy. 'The Prodigy: A Biography of William James Sidis, America's Greatest Child Prodigy'. Dutton Adult; 1st edition (June 26, 1986).

Wechsler, Herbert. 'The Challenge of a Model Penal Code'. 65 *Harvard L. Review*. 1097 (1952).

Weinreb, 'Homicide: Legal Aspects', in 2 *Encyclopedia of Crime and Justice* 885 (S. Kadish ed., The Free Press 1983).

Wikler, Daniel. 'Paternalism in the Age of Cognitive Enhancement: Do Civil Liberties Presuppose Roughly Equal Mental Ability?' in 'Human Enhancement', edited by Nick Bostrom and Julian Savulescu. 2009.

Ya-Ping Tang, Eiji Shimizu, Gilles R. Dube, Claire Rampon, Geoffrey A. Kerchner, Min Zhuo, Guosong Liu & Joe Z. Tsien. 'Genetic enhancement of learning and memory in mice.' *Nature* 401, 63-69 (2 September 1999)

Yesalis, Charles E. and Virginia S. Cowart, 'The Steroid's Game'. Human Kinetics Publishers; 1 edition (April 1998).

Zernike, Kate. 'The Difference between Steroids and Ritalin is...' *The New York Times*, March 20, 2005.

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